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FAMILY STRUCTURE AND ADOLESCENT INFORMATION SEARCH

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by

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ABSTRACT

The basic proposition explored in this work is that variations in adolescent information seeking from objective and interpersonal sources are a function of differential socialization climates in the family. Socialization climates refer to parental behavior toward the child along the two primary axes of power and support. Information search is viewed as a function of uncertainty, a motivational state or drive condition arising from discord within the nervous system.

The acquisition of information is said to reduce uncertainty. Uncertainty levels can be altered in individuals through training. Training effects two uncertainty processes: fluency in observing and encoding information from the environment (in this research, attentiveness to the environment), and fluency in generating alternative solutions to problems. These training conditions incorporate two criteria: they reinforce exploratory behavior and attempts to find new means-goals relationships, and they offer noncritical encouragement to the learner.

Tallman's optimum problem solving family incorporates these criteria. It combines centralized leadership and affection and support relationships in accord with the distribution of power, fostering self-esteem in those who perform adequately in the system.

The optimum problem solving family unit was located within the high power, high support quadrant of Straus' circumplex model of family socialization modalities and the following hypotheses were tested:

1. HPHS Families provide more effective learning environments for the development of complex conceptual structures; and
2. that HPHS is associated with an empiricist orientation in respect to attentiveness to the environment;
3. Children in HPHS Families score higher on measures of self-esteem than in non-HPHS Families;
4. Children in HPHS Families will seek more information than in non-HPHS Families;
5. The combination of an HPHS socializing climate and high self-esteem is associated with high information search;
6. The combination of an HPHS socializing climate, high self-esteem, a complex conceptual structure, and an empiricist orientation in respect to attentiveness to the environment maximizes information search.

Thirty-four families of selected tenth graders attending the public high school of a small industrial city in southeastern New Hampshire took part in the study. The task consisted of a game played with balls and pushers called the SIMFAM technique. The interaction was scored according to Bales interaction process analysis.

The dependent variable was the child's information seeking behavior. An index was constructed from three measures: the number of information cards taken by the subject, the subject's self-evaluation as an information seeker, and the number of acts scored as information seeking acts.

One of the hypotheses was supported. Complex conceptual structure was associated with high power, high support socializing conditions. However, there was reason to question the adequacy of the measure of conceptual structure used in the study. Contrary to the hypotheses, the low power, low support quadrant included subjects who scored highest in self-esteem, attentiveness to the environment, intelligence, and information search.

Power was measured by counting the suggestions and directions given children by their parents. Support was measured by the frequency of parental expressions of solidarity with children. The results indicated that power was not a factor with respect to the child's information search. Support consistently demonstrated a significant negative relationship. There was no significant interaction between power and support in relation to information search, but the low power, low support condition showed a mean information search score much higher than other combinations of power and support.

The most powerful influence on the child's information search was self-esteem. A tentative explanation of the results was proposed. Self-esteem was seen as a measure of the child's achieved autonomy and was related to Tallman's

theory that a flexible authority structure, that becomes more open over time, is required for optimum problem solving families. The flexibility of the authority structure was related to the so-called irresponsibility of youth. The more responsive the parents to the child's needs with respect to testing his competence in the decision-making process as he increases in maturity, the higher his self-esteem and the more likely it is that irresponsible behavior patterns have not been forced upon him. As a group, the families in this study did not exhibit much flexibility in this regard. Parents tended to interact more with one another than with the child. But in the low power, low support, condition, where parents were not constrained to give suggestions, directions, or make expressions of solidarity, the subjects scored highest in the measures conducive to information search (except conceptual structure).

INTRODUCTION

"All men by nature have a desire to know." Aristotle began the Metaphysics, one of his most profound works, with this assertion. He justified it by "the joy we take in our senses... the sense of sight above all." It is a joy that transcends utilitarian motives to obtain knowledge as a help to action because we love the senses for their own sake.

It is precisely as an aid to action, however, that the search for knowledge, or more specifically, for information is of interest here. It is proposed that the variations in rates at which adolescents seek information from objective and interpersonal sources in problem solving situations may be a function of differential socialization climates within the family.

Problem solving behavior is viewed as a logical process with identifiable phases. With qualifications noted by Aldous (1971:267), these phases are substantially the same as the phases individuals undergo in their problem solving behavior: that is, the identification and definition of the problem, the collection of relevant information, the generation of alternative solutions (plans of action), the choice of one of the alternatives,

following that course, and evaluating the consequences of what has been done (Cf. Dewey, 1910; Brim, 1962).

In fulfilling the second phase, the collection of relevant information, recourse may be had to modes of behavior which are not relevant to this investigation. Information may be available from previous experience and stored in the memory, or it may be drawn from the immediate situation by trial and error procedures, without the need for exploring objective or interpersonal sources.

This investigation focuses on instances in which persons reach out to find new information not available from the memory or from trial and error procedures through the exploration of objective and interpersonal sources. The principal interest is in how family socialization climates (specifically, parental power and support structures) effect the rate of information search among adolescents. Despite the voluminous research on cognitive processes in children (Cf. Farnham-Diggory, 1972; Piaget & Inhelder, 1969), adolescent information seeking behavior remains a largely unexplored phenomenon. The work of Thomas and his associates (1974) is suggestive for an analysis of information seeking behavior in adolescents as a function of the family's power and support structures, since it is the most thorough investigation to date of the relation between these variables and various aspects of adolescent behavior.

In this work the theory of information seeking behavior in adolescents has three primary sources. First, we

will draw upon the work of psychologists who posit uncertainty as a motivational state or drive condition which arises from discord within the nervous system. The acquisition of information is said to reduce this uncertainty. Secondly, we will relate this uncertainty theory to problem solving in families through a model of the optimum problem solving unit constructed by Tallman (1970) on the basis of propositions drawn from small groups research. Finally, we will locate Tallman's model within the circumplex model of family socialization modalities (based on power and support dimensions) developed by Straus (1964). Through these sources we will attempt to account for differing levels of uncertainty by showing that the optimum problem solving unit is one which provides the optimum climate for the development of cognitive processes which maximize uncertainty. This optimum climate will then be described in terms of its power and support dimensions. The expression of Tallman's model in terms of its power and support dimensions will provide the basis for an empirical test of the theory.

The principal variables of the analysis, measures of which will be described below, are the following: first, the adolescent child's information seeking behavior; second, the family power and support structure, which in this case has to do with parental behavior, that is, parental efforts to control the child's behavior, on the one hand, or to support and encourage the child, on the other hand. And thirdly, the child's cognitive style. The relations among these var-

iables involve the extent to which the child's cognitive style (which, as will be seen, is a determinant of uncertainty) is a function of parental behavior (parental power and support) toward the child, leading to differences among adolescents in information seeking behavior. The analysis will go beyond these variables, however, to take into account the pervasive influence of the child's self-esteem and intelligence on adolescent behavior (the relevant studies will be reviewed below). This theory will be dealt with in the first chapter.

In subsequent chapters the results of the theoretical discussion will be presented in the form of a model of adolescent information seeking behavior, the sample and method used in the study will be set forth, and certain methodological issues will be dealt with (Chapter Two). A broad picture of adolescent information seeking behavior based on the findings will be outlined (Chapter Three) and also of the parental power and support structure of the families in the sample (Chapter Four). The possibility that certain variables may have confounded the results will be explored (Chapter Five), and after this, the results of tests of the hypothesized multivariate theory will be presented (Chapter Six). We will conclude by presenting a revised multivariate theory of adolescent information seeking behavior (Chapter Seven).

CHAPTER I

UNCERTAINTY, FAMILY STRUCTURE, AND ADOLESCENT INFORMATION SEARCH

Epistemic or information-seeking behavior is an every day event among humans. Confronted with a problem, a person may be expected to assess the store of relevant information available to him. If he does not have the information he needs, he will probably attempt to find it.

In such situations, the stores of available information have grown in recent years by the proverbial leaps and bounds. The so-called knowledge industry, which channels information into the hands of those who need it, was estimated in 1958 to make up some 29 per cent of the nation's Gross National Product, and it was growing (Machlup, 1962).

The availability of knowledge, however, says nothing about its utilization, and more often than not, utilization may be a function of individual motivation. For this reason, psychologists have had a long standing interest in a theory which would explain individual differences in information seeking behavior.

Sociologists have not concerned themselves with the problem. This study, however, attempts to relate certain

sociological variables drawn from small groups research to the theory of information seeking behavior which has resulted from the studies of psychologists. At this point, we will briefly survey the psychological theories and indicate why one, uncertainty theory, seems to be most promising.

PSYCHOLOGICAL THEORIES

No doubt an explanation of information seeking behavior may be derived from psychoanalytical theory. Freud thought that civilization was the result of man's sacrifice of primitive impulse-gratification to the common good. Each individual makes the sacrifice when he becomes a part of the community. Freud says

> The sexual are amongst the most important of the instinctive forces thus utilized: they are in this way sublimated, that is to say, their energy is turned aside from its sexual goal and diverted toward other ends, no longer sexual and socially more valuable (1924:27; Cf. Jay, 1973: Chapter 3).

The sublimated energy is thus directed toward socially valuable problems and the individual engages in information seeking behavior with respect to information relevant to these problems. The conditions under which individuals vary in this behavior are not specified, however. The theory remains somewhat vague and largely untested (or un-

testable) despite its attractive features.

In comparison with psychoanalytical theory, decision theory represents a much more explicit approach to the study of information seeking behavior. In fact, it has been pointed out that it is not so much a theory as a framework for the study of behavior (Haaland, n.d.). But the basic ideas are simple, and the assumptions are clear.

> People behave rationally, i.e., they choose the behavioral alternatives which, in their own analysis, will give them the best possible outcomes. It is assumed that behavioral alternatives can be ordered on the basis of utility and that an individual will select the alternative with the greatest utility. It is also assumed that the individual can place a subjective probability on the occurrence of an event or alternative, and that these alternatives can be given a value. Utility then becomes a multiplicative function of subjective probability and value... The task of this approach is to ultimately specify the probabilities of the occurrence of responses, given both the utility curves of responses and information and some knowledge of their interaction (Haaland, n.d.: 2-3).

This theory is of value only when these assumptions can be justified. When rationality can not be assumed

or probable risks calculated, it is questionable whether the theory contributes to an understanding of information seeking behavior.

Social learning theory is deceptively simple, but a sociologist like Homans has made a career of exploring the almost infinite nuances of that simplicity (Homans, 1950; 1974). He states the general propositions of behavioral theory, all of which, he points out, have to do with the fact that human behavior is a function of its payoffs, or outcomes, whether rewarding or punishing, and that it is the same whether the payoffs come from the nonhuman environment or from other human beings (1974:12). This would imply that when past behavior has been reinforced or rewarded in terms of the payoff, it is likely that the individual will repeat the behavior in the future. Thus individuals who have had positive reinforcement of their previous information seeking acts will be more likely to repeat those acts in the future.

Much more significant for our purposes, however, than social learning theory is the personality concept which Rotter (1954) derived from it. The concept is internal vs. external control of reinforcement (I-E), and it refers to the extent to which an individual feels that he has control over the reinforcements that occur relative to his behavior (Phares, 1968). We will make use of a measure of I-E in this research and will therefore describe it more fully below.

Rotter's use of the theory, however, shows that in itself it is insufficient as an explanation of information seeking behavior, since he found it necessary to go beyond the behavior itself to the individual's symbolic understanding of that behavior for an explanation of information search.

The problem with social learning theory is its assumption that all behavior is an expression of what is learned. It cannot account for behavior which takes place in novel situations which lie outside the competence of the individual's learned responses (Cf. Montagu, 1955:318). In these situations, the individual functions at a different level than that represented by the familiar stimulus-response paradigm. Included are such familiar forms of behavior as anger, fear, and curiosity, and it takes place in terms of unlearned responses.

In searching for an explanation for this behavior, Moreno identified what he called an s or spontaneity factor.

> ...there is within the range of individual expression an independent area between heredity and environment, influenced but not determined by hereditary (genes) and social forces (tele). The s (spontaneity) factor would have in this area its topographical location. It is an area of relative freedom and independence from biological and social determinants, an area in which new combinatory acts and permutations, choices and decisions are formed, and from which human

inventiveness and creativity emerges (Moreno, 1944; 1953).

Moreno's concept of a spontaneity factor points in the direction of the psychological theory eventually formulated to deal with the problem of unlearned responses: intrinsic motivational states or drive conditions. In his book, Conflict, Arousal, and Curiosity, D. E. Berlyne (1960) provided a theory for the investigation of information seeking behavior based on intrinsic motivation and showed how uncertainty may function as such a drive condition. We will present the essential features of uncertainty theory here and will then turn to the problem of how uncertainty and the family power and support structure are related. This will provide the basis for an analysis of how parental socialization effects the adolescent'child's cognitive style.

UNCERTAINTY THEORY

For our purposes, then, the most promising approach to the problem of information seeking behavior stems from the perspective of Berlyne (1960) and the research of Lanzetta (1970) which relates information search to uncertainty. The theory is based on intrinsic motivational states or drive conditions, especially the kind that are not explained by visceral stimuli like hunger or thirst or by external irritants like pain or extreme heat or cold. A general proposition that processes in conflict can motivate individuals to

seek information has found empirical support in three kinds of research (Lanzetta, 1970:2f). First, studies showing that emotional disturbances appear when an individual feels that the same stimulus is calling forth incompatible responses or that his attempts to maintain an organized pattern of behavior are not given sufficient sensory support; second, those which show that stimulus patterns having novelty, surprise, incongruity, or complexity elicit stronger patterns of exploratory behavior and curiosity; and third, studies on attitude change, child development, educational practice, esthetics and humor, which also suggest that the conditions which call forth incompatible response tendencies are accompanied by distress and motivate behavior which is instrumental in reducing response incompatibility by providing exposure to new information or permitting a reorganization or restructuring of old information.[1]

A variety of theories have been developed with the same underlying assumption: that the awareness of incompatibility motivates behavior which is instrumental in reducing the incompatibility. The most relevant of these defines uncertainty in terms of information theory and points to information acquisition as the primary means of reducing uncertainty. According to the theory, an individual finds himself in a situation where he must choose a course of action or make up his mind about the occurrence of a future event or con-

cerning a belief or attitude. The situation evokes a set of implicit or explicit responses which conflict. It may involve the categorization of stimuli, forming expectations, choosing beliefs, etc. Whatever it is, he is uncertain about what to do.[2]

Uncertainty increases as the number of options open to the chooser increases, and reaches a maximum when any one choice becomes as plausible as any other. Obviously, the choice must involve different options, all equally plausible, but having varying consequences. Otherwise the chooser could make his choice on some random basis, assured that any one choice would be as appropriate as any other. The situation is analogous to that of the beauty contest judge whose uncertainty increases as the number of contestants meeting his ideal of beauty increases, reaching a maximum when all the contestants exhibit his ideal criteria to the same degree. The norms of beauty contest judging constrain the judge to make his choice without resorting to random procedures. The theory says that the judge will not come to a decision until the incompatibility in choosing one contestant over all the others has been reduced to the point where such a choice is possible. He will seek more information about the contestants in order to reduce the incompatibility to that point.

It is assumed that the psychological reinforcement for information search is the reduction of uncertainty, and that

individuals prefer greater rather than less reinforcement. Thus individuals tend to prefer sources of information which promise a high degree of uncertainty reduction, and preferences vary directly with the source's potential for uncertainty reduction. Not that uncertainty reduction is the sole property of a source influencing individual preferences. Novelty, surprise, ambiguity (collative properties), etc., are properties which also influence preferences (Lanzetta, 1970:4).

When an individual experiences uncertainty to more than a moderate degree, the tendency is to repeat behavior patterns which have in the past been instrumental in reducing conflict; uncertainty, that is, is aversive. Among such behavior patterns, the acquisition of new information is likely to be prominent since it has long association with the attenuation of uncertainty.

As one might expect, given the same situation, all individuals do not experience uncertainty to the same degree. This is of crucial importance for our theory of information search. We will relate structural variables derived from aspects of family interaction (parental power and support) to individual differences in the experience of uncertainty. The psychological theory we have reviewed is constructed of the personality variables, uncertainty and importance.[3] It is our purpose now to find a link between these personality variables and the family structural variables.

CONCEPTUAL STRUCTURE

What we are looking for, then, when we speak of a link between personality and structural variables, is a variable which has given evidence of being related to individual differences in uncertainty responses, and which is in turn influenced by differences in socialization climates (in this context, power and support structures), or in the language of the social psychologist, training conditions. A variable which meets these requirements is conceptual structure. It may be defined as a set of mediating links which constitute a relatively stable group of cognitive techniques for receiving, processing, and transmitting information (Harvey, Hunt, and Schroder, 1961).

According to Sieber and Lanzetta (1964:623), the complexity of the structure is a function of "(1) the number of dimensions along which stimuli are ordered, and (2) the complexity and number of different schemata with which the perceived dimensions of information are organized." These criteria make possible the delineation of two conceptual structure types: concrete persons who process information by the use of few dimensions of information and simple integrating schemata, and abstract persons who make use of many dimensions of information and use complex integrative schemata.

Sieber and Lanzetta investigated the effects of conceptual structure on predecisional information search. They incorporated this variable into a model which also included

uncertainty and decision importance. The model was based on the drive reduction theory of information search outlined above and on conceptual structure theory. They found that simple or concrete persons perceive less information and therefore probably experience less uncertainty than complex or abstract individuals. Their research indicated that arousal and information acquisition may vary as a function of conceptual structure (1964:623f).

The model presumes that two types of complexity, environmental and conceptual, interact. The interaction leads to quantitatively different relationships between environmental complexity and information processing for abstract in contrast to concrete persons (1964:625f). The authors tested a set of hypotheses dealing with conceptual complexity. Abstract persons displayed more complex information acquisition and processing than concrete persons, and these differences increased with increases in decision uncertainty. Information search was found to be curvilinearly related to problem importance -- a result which was not taken to be conclusive because the researchers questioned some of their own procedures dealing with this variable. Their research did, however, establish the influence of conceptual structure on uncertainty processes. Abstract persons were found to behave in a manner consistent with the notion that they perceive more dimensions of in-

formation, form concepts based upon more combinations of these dimensions, and habitually seek more information in order to have a more comprehensive map of the environment (1964:638). These findings support the link between conceptual structure and the personality variable. We turn now to the problem of the relationship between conceptual structure and the family structural variables (power and support).

UNCERTAINTY TRAINING

The problem involves the extent to which conceptual structures are influenced by socialization climates. Before dealing with this problem directly, however, it is necessary that we examine the studies of Sieber and Lanzetta (1966) which draw upon certain contrived training conditions rather than natural learning environments to show that conceptual structures may be altered through training.

The authors conceptualized response uncertainty as including two processes, and they designed a training condition for each. The first, which provided uncertainty training, was intended to increase the subject's fluency in generating response alternatives by increasing the number of associative responses available to him in his response hierarchy. The second, which provided mediation training, was intended to increase fluency in observing and encoding problem relevant information and the production of many alterna-

tive solutions based on the information gained from the stimulus (1964:569). They found that both of the processes were partly responsible for differences in the predicsion behavior of structurally simple and oomplex persons. Mediation training, however, had a consistently stronger effect than uncertainty training. The authors speculated on the reason:

> Possibly, uncertainty training served only to increase response uncertainty, leaving subjects to rely upon their usual decision processes to handle the generated information. Mediation training, however, may have provided a more systematic way of examining problems and producing alternatives; although the final evaluation criteria still remained to be generated by the subject, mediation training may have taught him to search his memory and environment more systematically for relevant data upon which to base his decision (1966:570f).

The difference between uncertainty training and mediation training is that in the former the subject has only a fleeting chance to acquire information about the image (in a slide identification task) and little opportunity to analyze the information, while in the latter he is given ample opportunity to break the image down into its factual details and to analyze its component parts. The problem with the uncertainty training conditions seems to have been that

it created uncertainty but allowed no opportunity for the subject to acquire information for use in conjunction with the broadening response hierarchy. Emphasis upon the response hierarchy apart from information produced what were in effect free-floating responses which were nowhere anchored in factual information or even in relevant categories since subjects were encouraged to indulge in unusual and presumably wild flights of imagination.

Mediation training had a consistently stronger effect on predecision behavior than uncertainty training because there are actually two processes involved in uncertainty: (1) the observation and encoding of information, and (2) the generation of alternative solutions to problems. Mediation training affected both of these processes; uncertainty training affected only the generation of alternative solutions. If the uncertainty processes are to be measured accurately, therefore, separate measures are required for each process.

TYPES OF COGNITIVE STYLES

In the model presented by Sieber and Lanzetta (1964) conceptual (rather than environmental) complexity is related to the process for which uncertainty training was designed. The greater the complexity of a person's conceptual structure, the greater his ability to generate alternative solutions to problems. The measure of this uncertainty process to be used in this research is a shortened form of the Barron-Welsh Art Scale, which will be described below.

Fluency in Observing and Encoding Information, i.e., Attentiveness to the Environment		Fluency in Generating Alternative Solutions to Problems, i.e., Conceptual Complexity.	
		Low	High
	High	Simple Empiricist	Complex Empiricist
	Low	Simple Idealist	Complex Idealist

Figure 1. Cognitive styles in relation to uncertainty processes.

Mediation training was designed to increase the subject's fluency in observing and encoding information from the environment. An index of this fluency measures the individual's attentiveness to his environment. The Rotter Scale, based on the internal vs. external control of reinforcement concept, has been effective in differentiating individuals according to their attentiveness to the environment (Rotter, 1954; Seeman, 1963). We assume that the greater one's attentiveness to the environment, the more fluent one will be in observing and encoding information from the environment. This assumption will be justified below when the measure is described.

These two measures, the Barron-Welsh Art Scale and the Rotter Scale, enable us to differentiate subjects according to two dimensions: conceptual complexity (Barron-Welsh) and attentiveness to the environment (Rotter), and these dimensions provide four possible types of cognitive styles (see Figure 1):

Type A: The simple-empiricist has simple conceptual complexity (little fluency in generating alternative solutions to problems) and is attentive to his environment (fluent in observing and encoding information).

Type B: The complex-empiricist has complex conceptual complexity (high fluency in generating alternative solutions to problems) and is attentive to his environment (fluent in observing and encoding information).

Type C: The simple-idealist has simple conceptual complexity and is not attentive to his environment. Ideas have no particular hold upon him.

Type D: The complex-idealist has complex conceptual complexity giving him fluency in generating alternative solutions to problems, but he is not attentive to his environment. He draws upon mental resources without relating them to the real world. He is an idealist.

COGNITIVE STYLES AND SOCIALIZATION

The four types represent four cognitive styles which may be related to differing socialization climates (combinations of parental power and support). The question to be explored at this point is what differences in socialization climates (natural environments) account for differences in cognitive styles. As we will see, this question will be further refined to take into account the family power and support structure and we will ask what differences in family power and support structures account for differences in cognitive styles. Before doing so, however, we will review Sieber and Lanzetta's findings (1966:570) with respect to the development of simple or complex individuals from their study of the effect of training conditions on complexity.

In their opinion, natural environments may incorporate the training conditions which provide the mechanisms for the development of simple or complex individuals. Their data support this possibility, and they consider their find-

ings to be "in agreement with the mainstream of current theory concerning the nature and development of complex conceptual functioning" (1966:570). Harvey, Hunt, and Schroder (1961) had suggested that structurally complex behavior is engendered by environments which reinforce exploratory behavior and attempts to find new means-goals relationships, and they emphasize the importance of an interdependent relationship with a training source who poses problems, and then aids in the selection or production of information according to the ability of the learner (Cf. Sieber and Lanzetta, 1966:570). In line with this, Sieber and Lanzetta point out that their data

> indicate that complex information processing behavior is engendered by noncritical encouragement and reinforcement for producing hypotheses about the nature of stimuli, and by reinforcement for attending to and encoding a wide variety of environmental stimuli, and producing controlled associations to these data. The desired class of responses may be encouraged by verbal requests and prodding and by provision of an estimable model (1966:570).

The work of Sieber and Lanzetta supports the notion that conceptual structures may be influenced by learning environments, or in still broader terms, by socialization climates similar to those provided by the family. Learn-

ing environments which incorporate the training conditions contrived experimentally by the researchers are those which meet the following criteria: they reinforce exploratory behavior and attempts to find new means-goals relationships, and they offer noncritical encouragement to the learner. In this research we are attempting to specify the family socialization climate, or combination of parental power and support, which meets these criteria, providing an environment for optimum development of the uncertainty processes.

A MODEL OF FAMILY PROBLEM SOLVING

The family has as one of its primary functions the early socialization of children. It constitutes a learning environment for all its members, and families may be distinguished by the extent to which they meet the criteria outlined above. Also, the family may be looked upon as a small problem solving unit (Tallman, 1970; Aldous, Condon, Hill, Straus, and Tallman, 1971) which engages in information search as one phase of its problem solving activity (Aldous, et al., 1971). The work of Tallman is particularly relevant since he has attempted to develop a typology of attributes which contribute to effective family problem solving behavior (1970), and his typology helps us to interpret the family as a learning environment.

Tallman's model of family problem solving behavior links structural variables found to be associated with prob-

Group Structure Variables	Cognitive Styles (all involving elaborative language styles)	Family Relationships: Support and Affectional Relationships	Family Relationships: Power Relationships
Open Channels of communication	Belief in mastery over nature, distributive justice rewards for contributions regardless of status	Affectional ties and support throughout the entire family hierarchy	Incumbants of all positions encouraged to contribute to group solutions. Acceptance of changing channels and positions over time.
Centralization of leadership to provide coordination of group effort	Conception of distributive justice legitimizing authority of leader	Congruent with formal structure	Leadership positions amenable to change as situations change. Consensus as to role allocation.
Provides for conflict of ideas	Cosmopolitan autonomy	Provides support and control necessary for the development of self-esteem in all family members	Norms provide for an evaluative set encouraging flexibility and autonomy among family members
Consensus as to group goals	Mastery over nature	Affectional ties and support patterns make the family more attractive than alternate intimate groups	Consensus as to role allocation and expectation

Figure 2. Tallman's ideal typology of attributes contributing to effective family problem solving behavior (1970:101).

lem solving in small groups to variables influencing forms of family interaction. Two broad categories of problems faced by families were selected: (1) those requiring new solutions through the production of innovative or creative ideas, and (2) those requiring the coordination of efforts by group members to achieve certain specified goals. The extensive small groups literature dealing with these problems was surveyed (Cf. Tallman's summary of the relevant studies, 1970:95-96), and after introducing specifications to make the findings applicable to the family, Tallman drew up a set of structural propositions based on the studies. The propositions locate the key structural variables in the analysis of effective family problem solving. The significant aspect of the model, however, is that it attempts to link three classes of variables: the structural variables contained in the propositions, cognitive style variables, and variables having to do with family relationships, i.e., power and support relationships. His ideal typology shows these relationships clearly (See Figure 2).

The model calls for family structures allowing for both open channels of communication and centralization of authority. The atmosphere in the family is such that conflicts of ideas are not inhibited, and at the same time, goal consensus is maintained. There are subtle distinctions implicit in the structures between authority and authoritarianism, and family members exhibit a cognitive style

which enables them to specify and differentiate the relevant aspects of a particular situation. The structural variables also imply a set of world views by which family members see themselves (1) as masters of their environment, (2) as "cosmopolitans" who value commitments to principles and are able to withstand conformity pressures, and (3) as people functioning within an authority structure based on distributive justice, one rewarding individuals according to their contributions rather than their status. These beliefs in turn imply a family power structure which Tallman considers to be critical in influencing the problem solving process. Furthermore, it is the flexibility of the power structure that is most critical, and the optimum structure is one that becomes more open over the life cycle of the family, a point which will be seen to have important implications for this study.

Together with the need for goal consensus, the power structure implies a family with affective and support relationships in accord with the distribution of power. That is, when family members give their support to those in leadership positions, the leaders' self-esteem is enhanced and they exercise power with a degree of flexibility that makes it easier, if it is necessary, to change the decision making process. This process tends to legitimize status differences, and to the extent that this happens, all positions are valued and the less powerful contribute to decisions without feeling dominated by the more powerful (1970:

101-102).

Logically, the attributes which contribute to effective behavior in the problem solving process as a whole will correspond to those required for effective behavior in an important phase of the process. Thus in developing a typology of attributes, Tallman has provided a description of family structures which are conducive to the development of complex conceptual structures. This assumption will be supported if Tallman's model embodies the two criteria which characterize natural environments which incorporate the training conditions Sieber and Lanzetta contrived for their studies.

Tallman's structural variables, we maintain, describe a family structure which encourages members to reinforce exploratory behavior and attempts to find new means-goals relationships.

Furthermore, his emphasis on the notion that these structures imply affective and support relationships in accord with the distribution of power meets the criterion calling for an environment which offers noncritical encouragement to the learner.

Also relevant at this point is Tallman's treatment of conflict. No attempt is made to avoid or rule out conflict in the optimum problem solving family. And yet conflict does not include attacks which cut down the person with the idea. Noncritical encouragement, in the sense of the crit-

erion, does not conflict with this statement of Tallman:

> Problems requiring creative solutions appear to be resolved best in structures which allow every group member the opportunity to make contributions to the problem solution (Hoffman, 1965; Bass, 1963). This does not mean that messages are transmitted in a totally nonevaluative and nonjudgmental atmosphere... what seems necessary is a structure which allows for the expression of a diversity of conflicting views, all of which are subject to evaluation and criticism. At the same time, the integrity of the individual contributor must be protected (Hoffman and Maier, 1961; Hoffman, et al., 1962).

The model, then, meets the criteria for a natural learning environment which incorporates the training conditions developed by Sieber and Lanzetta.

But what specific combination of power and support describes a family socialization climate that represents the optimum problem solving unit? An answer to that question may be found by locating the optimum family unit on the circumplex model for the analysis of family socialization modalities based on power and support dimensions developed by Straus (1964).[4]

TALLMAN'S MODEL LOCATED IN STRAUS' CIRCUMPLEX

The question of where to locate the ideal typical

problem solving family in the circumplex model is not as straightforward a matter as might be supposed. Straus and Tallman differ in their assessment of one dimension of the model: power. And the difference in assessment is important because the model is intended to isolate the central and pervasive elements of family structure and relate them to the socialization process in childhood and to the personality patterns which varying combinations of these elements produce (Straus, 1964).

Straus defines power in terms of "actions which control, initiate, change, or modify the behavior of another member of the family" (1964:318). His assessment of power seems to be that the individual in power uses his position to dominate those below him in the power structure. This is evident from his analysis of "developmental versus traditional" parental behavior:

> ...a developmental family structure is one characterized by high support or expressions of love but low power or restriction on the behavior of the child. Conversely, the "traditional" pattern is one in wnich parents are low in supportive acts and high in expression of power or control (1964:322).

This implies that high power restricts behavior and inhibits the development of important structures such as

those providing for open channels of communication. However, in assessing the behavioral implications of power Tallman makes the point that the effect of power depends on whether normative expectations with regard to the distribution of power are congruent with the actual power relations which evolve in family interaction, since the two need not be synonymous (Cf. Bott, 1957:192-215). If the two are not synonymous, family members may challenge the normative system until it is brought into line with reality, or they may produce a surreptitious informal system which will compete with the normative system. The surreptitious system will draw affection and support away from the normative system until the affectional hierarchy is no longer compatible with the formal power hierarchy. The result will be the development of coalitions and cliques, and dissension will inhibit the establishment of open channels of communication or goal consensus.

What interests us as well, is the possibility that with the normative system synonymous with the actual system, power may remain relatively high and not restrict behavior or inhibit open channels of communication. This might be the case if, more than being restrictive or inhibiting, power were a matter of providing a role model whose emulation would have the effect of producing behavior desired by the socializing agent. Tallman's model, calling for centralization of leadership and goal consensus, describes

a situation not unlike this.

What must be stressed, however, is that it is not power alone that is the crucial variable here, but the manner in which power is articulated within a structure which includes other significant variables. The critical function of support and affection can hardly be stressed too much. Tallman points out that self-esteem particularly is strongly affected by support and affection.

> We can assume that the expression of positive and negative sentiments among family members has a profound influence on their self-concepts; self-concepts, in turn, affect both the quality and the extent to which members contribute to the group's problem solving activities. There is evidence indicating that people with high self-esteem are better able to withstand pressure toward conformity (Smith, 1968; Hovland, et al., 1953), and as a consequence, are able to utilize a broader range of ideas in seeking problem solutions (1970:100).

When these variables result in an interplay between expressions of sentiment and the evaluation of performance we come close to the heart of the matter. Tallman looks upon this interplay as critical in determining the degree to which structures will be open and flexible.

> The interplay between affection, support and evaluation of performance becomes especially

> important if we accept the proposition that the optimum problem solving family will have to change its structure over time, opening channels of communication and decision making opportunities as children gradually become more competent. Since in the early stages of the family cycle virtually absolute power is vested in one or both parents, the extent to which the family is able to decentralize over the life cycle should depend primarily on a parent's willingness to relinquish some of his prerogatives (1970:100).

In the third chapter we will return to this notion in order to investigate its implications for the child's sense of responsibility. The decentralization of power, accomplished when parents are able to relinquish some of their prerogatives, determines whether the child is able to test his growing competence, which in turn has important consequences for his sense of responsibility.

THE OPTIMUM FAMILY PROBLEM SOLVING UNIT

Tallman's optimum family problem solving unit is one in which leadership is centralized, providing for group coordination. Affection and support relationships are in accord with the distribution of power, fostering self-esteem in those who perform adequately within the system. There is an interplay between peformance and its rewards, with

the reward for adequate performance taking the form of warm, supportive responses. The overall power structure of the family does not change over time, but there is increasing flexibility in the exercise of leadership, providing for more participation by the young in the decision process as they mature. Increased maturity in the young, however, brings increasing responsibility. Those in minority positions are held responsible for adequate performance, as the majority positions maintain their power. Since both power and support are high, we conclude that the socialization climate defined by the typology of attributes for effective family problem solving combines high power with high support.

This position is in substantial agreement with the educational research which has explored the origin-pawn concept in regard to intrinsic versus extrinsic motivation. The training conditions required for the development of intrinsic motivation incorporate the same combination of high power with high support. De Charms describes the development of these training conditions:

> Not to push people around is a beginning in treating people as Origins (intrinsically motivated), but we soon found that letting them do anything they wanted to do was <u>not</u> treating them as Origins either. To treat a person as an Origin is to help

> him to take responsibility for his own behavior. To the extent that a student is immature and incapable of taking responsibility, it is the duty of the teacher to step in, impose some restraints, and find ways to develop in the students the capacity for taking responsibility (1972:97).

It may seem paradoxical that training conditions thought to be necessary for the development of conceptually complex individuals with wide ranging exploratory habits appear in the high power, high support quadrant of Straus' circumplex model. The personality type held to be isomorphic with this quadrant is a conforming type of person. Other personality characteristics of this individual, however, are "intellectual control," "self-control," "acquiesces, assists, obliges," which have a better fit with Tallman's model (Straus, 1964:324). Nevertheless, the outcome of socialization when parents are both powerful and supportive is, on purely deductive grounds, conformity.

> Parents exercising both high support and high control have both the forces of reward and punishment at their disposal, and these are the conditions for most rapid learning. Moreover, if the power axis is equated with efforts to control behavior and the support axis with efforts to control values, there is complete agreement between

> Schaefer's implicit identification of persons socialized under such conditions as "conformist" with what Merton earlier called a "conforming mode of adaptation" (Straus, 1964:323f).

This theory is not supported by Bronfenbrenner's study of leadership qualities in children, however. He found that boys growing up under conditions of high parental power and support excel in leadership qualities, contrary to the theory. In order to see what is at work here, according to Straus, specific behavioral referents have to be invested in the terms "conformity," "socialized," and "conforming." To what is the individual expected to conform?

> In the present case, the explanation for the high level of leadership exercised by boys growing up in families with high parental support and power seems to derive from the fact that such families tend to be moderately father dominant. The content of the role model available to the boy is therefore that of a male exercising leadership... This harks back to a familiar (but in empirical research, often overlooked) theme: socialization is an interactional process in which the socializee learns to take the role of the other (Straus, 1964:325f; Cf. Mead, 1934).

If we apply this reasoning to the relationship between training environments and cognitive styles it is possible to account for the development of complex-empiricist types within Tallman's optimum problem solving family. As we have seen, this family provides a natural learning environment which reinforces exploratory behavior and attempts to find new means-goals relationships, and one in which non-critical encouragement is offered to the learner. Goal consensus, and flexibility in the exercise of power, made possible by affective and support relationships which are in accord with the distribution of power, all contribute to an atmosphere in which the exercise of power by leaders is possible without destructive consequences for lower status members of the group. Just as families which are moderately father dominant provide role models for the development of leaders (Straus, 1964), families which provide flexible leadership (without relinquishing their power) reinforce exploratory behavior by example. According to Tallman's model, the levels of parental support and power are highest during the early socialization of the child. The power structure becomes more open and flexible as the family progresses through its life cycle.

HYPOTHESES

The theory we have developed brings together two perspectives. In the first are cognitive style variables derived from psychological theory and from studies of informa-

tion seeking behavior. In the second are family structure variables, power and support, and the adolescent's self-esteem, derived from the model of family problem solving Tallman constructed from relevant studies of small groups. We have located Tallman's optimum problem solving family in the high support, high power quadrant of Straus' circumplex model, but in doing so, we have noted the difference between Straus and Tallman in their assessment of power. Our interpretation is based on Tallman's assessment of this variable, which stresses the flexibility of the family's power structure in the optimum problem solving unit. The implication of this is that we expect adolescent children in families scoring highest in parental power and support to have the greatest fluency in the uncertainty processes and to seek information at the highest rate in problem solving situations. We will label such families "HPHS Families" and test the following hypotheses:

1. HPHS Families provide more effective learning environments for the development of complex conceptual structures, and
2. that HPHS is associated with an empiricist orientation in respect to attentiveness to the environment.

There is evidence that supportive reinforcement leads to high self-esteem. Rosenberg (1963) in his study of high school students found that the students with high self-

esteem were most likely to be found in families in which parents took an interest in their children, and where that interest was primarily supportive in nature. Gecas (in Thomas, Gecas, Weigert, and Rooney, 1974) found that a combination of high support and high power produced the highest self-esteem scores (his General self-esteem measure) among high school youth in his sample. Therefore, it is further hypothesized that

3. children in HPHS Families score higher on measures of self-esteem than in non-HPHS Families.

Taken together, these factors indicate that children in HPHS Families are most likely to be fluent in the uncertainty processes. They will be complex empiricists in cognitive style and high in self-esteem. They will experience greater uncertainty in problem solving situations. Berlyne (1960) theorized that information search takes place when individuals find themselves in states of choice-induced conflict. Conflict is assumed to increase when the number of competing response tendencies elicited by the choice increases. Sieber and Lanzetta (1964) have shown that these response tendencies are a function of conceptual complexity. Furthermore, subjects high in self-esteem are more likely to have the confidence to venture beyond their own experience to explore interpersonal sources of new information, and subjects with an empiricist orientation in respect to attentiveness to the environment are more likely to investigate objective sources of new information.

Since complexity of conceptual structure, an empiricist orientation in respect to attentiveness to the environment, and high self-esteem are all expected to be associated with HPHS, it is hypothesized that:

4. Children in HPHS families will seek more information than in non-HPHS families;
5. The combination of an HPHS socializing climate and high self-esteem is associated with high information search; and
6. The combination of an HPHS socializing climate, high self-esteem, a complex conceptual structure, and an empiricist orientation in respect to attentiveness to the environment maximizes information search.

NOTES TO CHAPTER ONE

1. Lanzetta gives no specific references for these lines of evidence. For this reason, his complete statement is presented here:

> (1) Over 40 years ago, Skaggs found an acceleration in heart rate and reported tension during a period when subjects were awaiting one or more shocks whose intensity was unknown and whose time of occurrence was uncertain. Waiting for and uncertain shock was assumed to involve conflict and distress because S had to maintain a variety of response tendencies, no one of which could become prepotent until the uncertainty was resolved. Since Skagg's study, many investigators have documented the emotional disturbance which occurs when incompatible response tendencies are simultaneously aroused or when there is lacking sufficient sensory support for an ongoing organized behavior sequence.
>
> (b) Investigators of exploratory behavior and curiosity have discovered that the strength of such responses is greater when the organism is exposed to stimulus patterns possessing novelty, surprisingness, incongruity, or complexity. Such stimulus characteristics are thought to have

in common the property of evoking response uncertainty or conflict -- reactions are elicited corresponding to previously encountered, expected, and/or currently experienced features of the situation, and these elicited responses are often incompatible. Since these stimulus properties have been shown to also elicit increased "arousal" (as measured by change in GSR, heart rate, and EEG dysyncronization), and arousal is assumed to have drive properties, response uncertainty was postulated to behave as a drive stimulus.

(c) Evidence from recent work on attitude change, child development, educational practice, esthetics and humor, although less easily conceptualized in uncertainty terms, also suggests that conditions which elicit incompatible response tendencies are accompanied by distress and motivate behavior which by providing exposure to new information or permitting a reorganization or restructuring of old information is instrumental in reducing response incompatibility (1970:2-3).

2. Berlyne defined response tendencies in terms of information theory in order to show that such tendencies, when elicited by choice situations, may be assumed to vary in number and in strength, and the strength is expressed as a

Figure 3. Family socialization modalities falling within each quadrant of Straus' circumplex model, and personality types isomorphic to each.

Quadrant	Socialization Modality*	Personality Type**
High Power/Low Support	1. Dictatorial or demanding 2. Overdemanding 3. Authoritarian or exploitative 4. Traditional	1. Withdrawn 2. Social withdrawal 3. 4. 5. Avoids, relinquishes, withdraws
High Power/High Support	1. Overprotective or indulgent 2. Overprotective 3. Democratic or overprotective	1. Conforming 2. Intellectual control 3. Conformity 4. Self-control 5. Acquiesces, assists, obliges
Low Power/Low Support	1. Neglecting or detached 2. Neglect 3. Ignoring or self-centered	1. Aggressive 2. Impulsive 3. Quarrelsome 4. Irritable 5. Analyzes, disapproves, resists
Low Power/High Support	1. Cooperative or democratic 2. Casual 3. Permissive or overindulgent	1. Friendly 2. Social participation 3. Friendly 4. Affectionate 5. Advises, directs, initiates

*Cf. Straus (1964). The sources of studies establishing modalities for each quadrant may be found in the following: 1= Schaefer, 1959; 2= Roe, 1957; 3= Williams, 1958; 4= Duvall, 1946.

**Cf. Straus (1964). The sources of studies establishing the personality types for each quadrant may be found in the following: 1= Schaefer, 1961; 2= Kassenbaum, Couch, & Slater, 1959; 3= Richards & Simmons, 1941; 4= McDonough, 1929; 5= Gough, 1957.

probability that the tendency will be called forth. Lanzetta explains the resulting measure of information search: "The information measure $H = p_i \log_2 p_i$, where p_i is the probability associated with response tendency i, is assumed to be a measure of the degree of response uncertainty. It is evident that the measure increases with the number of alternative responses elicited, and for any number of responses is a maximum when the relative response strengths are equal (1970:5).

3. We have not included <u>importance</u> as a variable in the design of this research, preferring to limit the investigation to conceptual structure. According to Lanzetta, his research "suggests that the higher the importance of a decision, the more alternatives the subject generated and, therefore, the greater his uncertainty..." (1970:10; Cf. Lanzetta and Driscoll, 1968).

4. Straus presents a circumplex model containing family socialization modalities and for each quadrant he indicates the personality types isomorphic to it (see Figure 3).

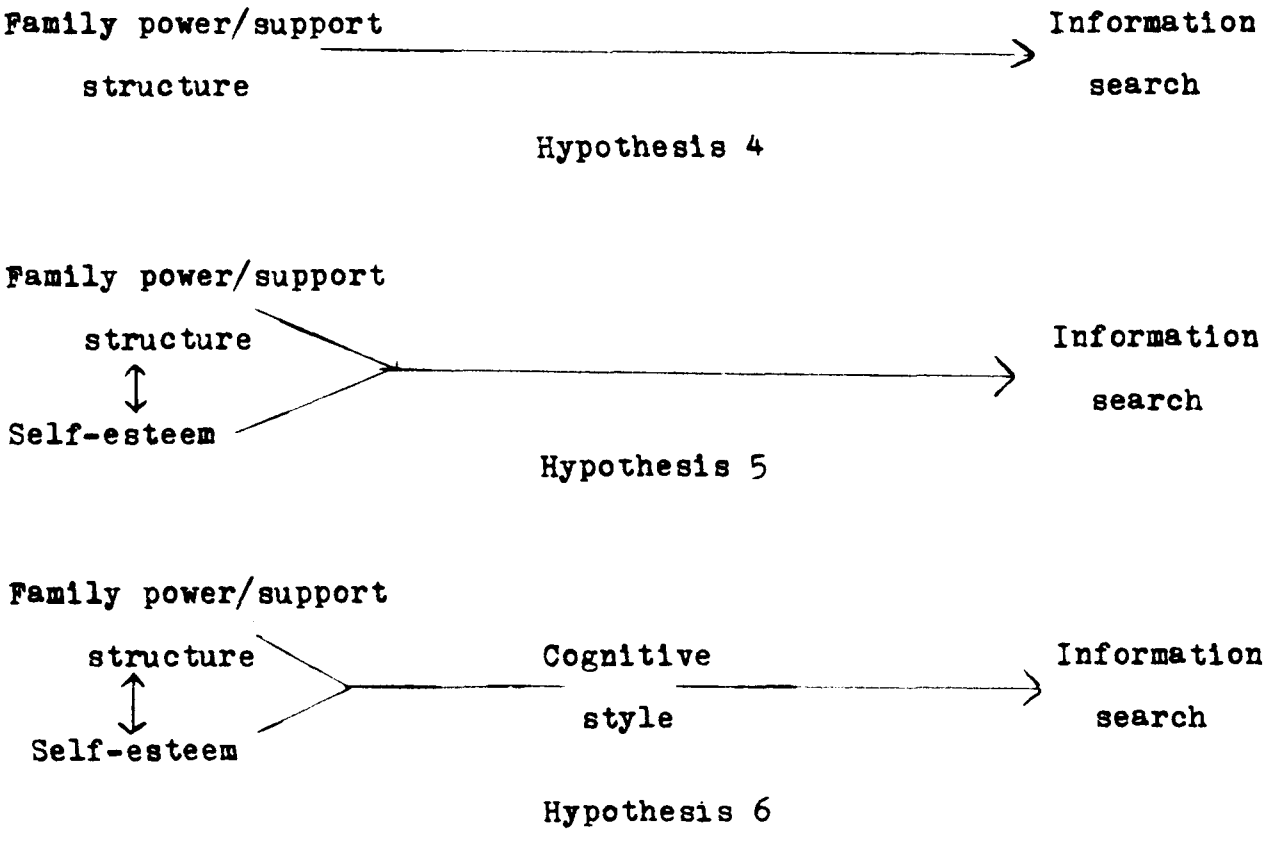

Figure 4. The major hypotheses

CHAPTER II[1]

METHODOLOGY

The theory of information seeking behavior developed in the first chapter has suggested a set of hypotheses which will be tested. These hypotheses represent a model which will be presented here. Variables in the research design will be described, and finally, certain methodological issues relevant to the measurement of the family power and support structure will be discussed.

THE THEORETICAL MODEL

A theoretical model incorporating the hypotheses discussed above will be tested in three phases, i.e. with increasing elaboration in terms of structural and social psychological variables. The model begins at a relatively simple structural level, testing the direct effect of the family power and support structures on the child's information seeking behavior.

The family power and support structure, then, is the independent variable and the adolescent child's information search is the dependent variable. The data will reflect actual rather than normative power and support insofar as actual structures are revealed by family interaction within an experimental game situation.

The model will be elaborated to include self-esteem as

an intervening variable. The possibility that self-esteem is related to conceptual structure must be considered, and also that both intra- and extra-familial socialization influences play a significant role in the development of self-esteem. There is the further possibility of a reciprocal or circular relationship between the family power and support structure and self-esteem. Situations in which power is supported are likely to enhance the self-esteem of the powerful and make them more effective leaders (Tallman, 1970). The inclusion of self-esteem as a variable in the research design (Hypothesis 5) makes it possible to investigate these possibilities. Finally, the model will be further elaborated to incorporate the "psychological" variables which are influenced by learning environments (Hypothesis 6).

Thus the intervening variables are self-esteem and the cognitive style variables, specifically, conceptual structure (simple or complex) and attentiveness to the environment (idealist versus empiricist orientation). Cognitive style involves the two uncertainty processes: fluency in generating alternative solutions, which we have discussed as conceptual structure, and fluency in encoding information, or in terms of this research, attentiveness to the environment. The assumption is that the Barron-Welse Art Scale (Welsh, 1959) identifies individuals with complex conceptual structures who are fluent in generating alternative solutions to problems, and that the Rotter Scale (Rotter, 1954) identifies individuals who are fluent in observing and encoding informa-

tion. These measures will be described below.

SAMPLE AND METHOD

Families included in the sample were those of selected tenth grade students (1969-1970) attending the public high school of a small industrial city in southeastern New Hampshire. School registration and directory cards were used to select students by social class, sex, achievement and intelligence. A 2 X 2 X 2 X 2 block design of 32 families enabled the matching of students as closely as possible for these characteristics. Since the analysis of variance design actually used involved no more than the three-way ANOVA, the block design was primarily a sampling device. Thirty-four families took part in the experiment, and two cells, working-class females with low grade-point average and low IQ, and middle-class females with low grade-point average and high IQ, had three rather than two families.

Social class was determined by the father's occupation. The child's grade-point average served as a measure of achievement, and IQ scores (Otis-Lennon, Form J, administered by the school) provided a measure of intelligence. There were eight middle-class families with a male child and nine with a female. There were also eight working-class families with a male and nine with a female.

The sample families received a letter inviting them to participate in return for the chance to earn $15.00 or more

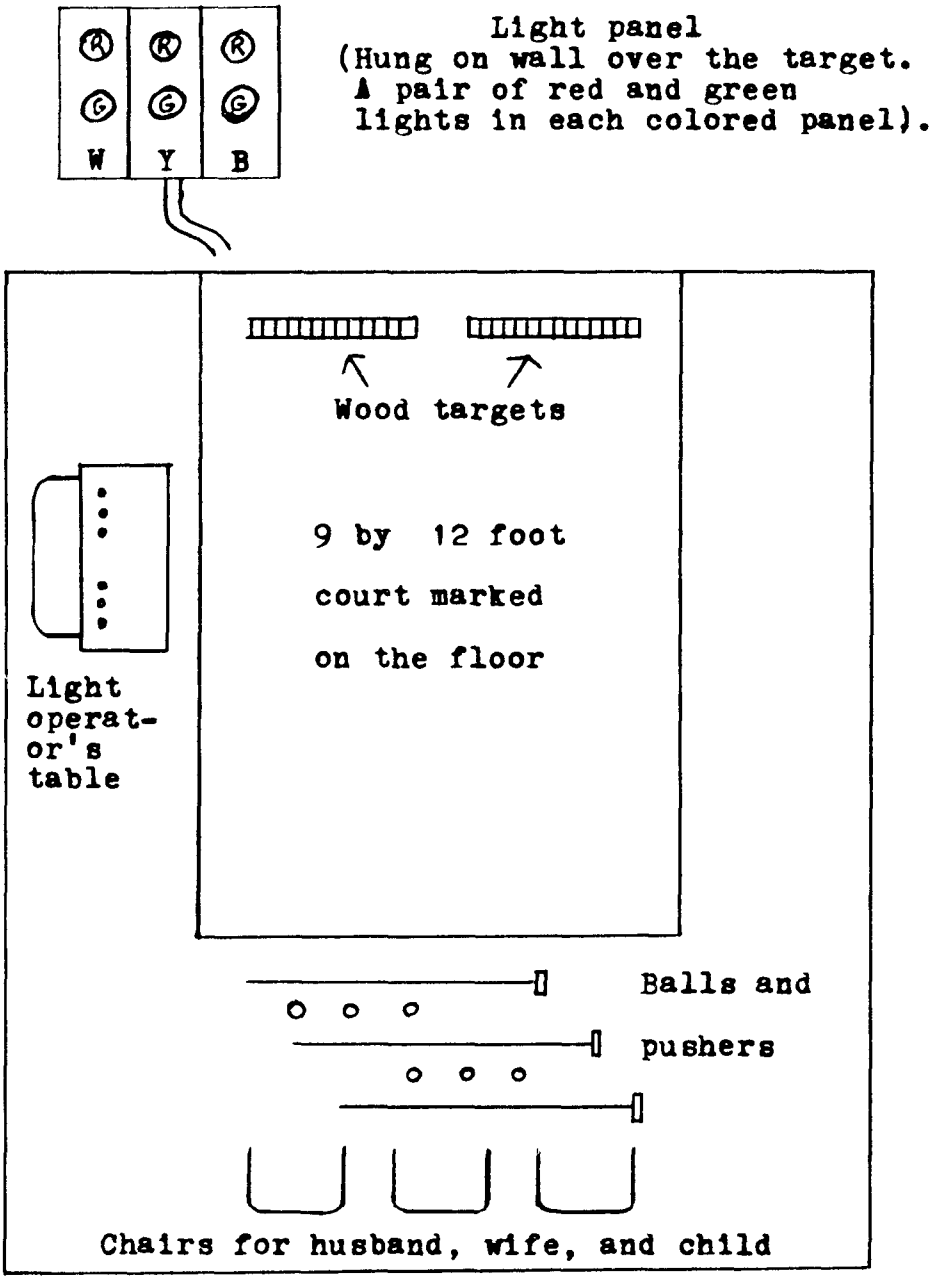

Figure 5. Equipment for ball and pusher task.

for their efforts. A visit to each family followed, and out of the 65 families who received the letter, 31 did not take part. This is not a measure of the willingness of families to participate, since many refusals came during the summer months when activities make scheduling problems more difficult. It is, nevertheless, a possible source of bias in the data.

The experiment was held in the auditorium of the local City Hall. The task consisted of a game played with balls and pushers called the SIMFAM technique (Straus and Tallman, 1971). It is a simplified version of a game developed by Swanson (1953) and modified by Hamblin (1958a, 1958b). It is a useful task for studies of working class people who tend to think in a physical or motoric fashion (Miller and Swanson, 1960). Detailed information about the task may be found in the discussion by Straus and Tallman (1971). In brief, however, it may be said that the game is played on a 9 X 12 court with two wood targets at the front, as shown in Figure 5. Three pairs of red and green lights are also placed at the front of the court. One pair for each member of the family. A blackboard is placed at the side to post scores after each period of play.

Each family is told that the problem is to figure out how to play the game. For this study, instructions were varied. Half the families played under intrinsic-reward conditions and half under extrinsic-reward conditions, although

this variable was not included in the research design and its effect was therefore not assessed in this study.[2] There were six three-minute trials, and the task for the family was to infer the rules of the game with the aid of green lights flashed for correct moves and red lights for incorrect moves, and to use this information to exceed the average of "other families who have played the game." Blackboard scores were not actual scores but a standard set for all families playing under intrinsic-reward conditions and a different set for those playing under extrinsic-reward conditions. A set of cards, each containing a rule for playing the game, representing an "objective" source of information, was placed at the front of the court. Each card cost the team one point and players were told this amount would be deducted from their total score. Players were encouraged to consult one another freely and to work together as a team (See Appendix "C").

The dependent and independent variables will be described at this point, and the intervening variables will be discussed below.

THE DEPENDENT VARIABLE

The three principal measures of information search in this research are:

(1) Information Cards. In the task situation described above the cards were located prominently above the target board in the experimental area. The instructions informed

the subjects that each card contained one of the rules they needed to know in order to solve the experimental problem, and that they could take as many cards as they wanted to, whenever they wanted to. They were told in addition that they would have to pay one point from their scores for each card taken, and that they would be required to read the contents of the card to their partners in solving the problem. The cards, it was assumed, represented an objective or "expert" source of information.

(2) The Behavioral Self-Rating. This is a self-report measure of information seeking behavior obtained by adding information search categories to the Borgatta Behavioral Self-Rating Scale, which was administered to all subjects. This schedule may be found in Appendix "A". The four items were:

> GENERALLY, I...
>
> read the Sears, Wards, or Spiegel catalogue just for fun.....
>
> read the instruction manual carefully when I get a new machine (like an automatic washer, car, or camera).....
>
> try to find out everything I can before making a decision.....
>
> shop around a lot before I buy.....

Responses to these items were summed to arrive at a BSR index of the child's information seeking behavior (BSR IS).

(3) Interaction Process Analysis Category 7. Category 7 of Bales' Interaction Process Analysis (IPA) is summarized as "asks for orientation, information, repetition, confirmation, explanation of behavior" (Bales, 1950:186-187). The

assumption here is that frequency of Category 7 behavior measures the degree to which subjects seek information from each other rather than from expert or extra-familial sources. Activity levels vary considerably from actor to actor, in terms of total activity in all categories. Therefore, in order to standardize scores and facilitate comparison the IPA data were converted to express each category score as a percentage of the subject's total activity. Thus the scores represent a behavioral measure of information search and the percentage of the actor's total activity which observers ascribed to Category 7 during the course of the game.

THE INDEPENDENT VARIABLES

Power. Our measure of power is the IPA Category 4: gives suggestion, direction, implying autonomy for the other. According to Bales, this category attempts to record behavior involving the process of cooperative action itself and also where the desired action of the other is the object of a conative-instrumental effort. Of the former Bales says

> Includes all acts which suggest concrete ways of attaining a desired goal by attacking or modifying the outer situation, indicating or suggesting where to start, what to do, how to cope with a problem in terms of action in the near future time perspective (1950:181).

Even more germane to this research is the dimension of this category which includes orientation to the other "as to

what kind of activity is expected of him in the immediate future under some given conditions..." (ibid.). Bales points out that this dimension

> ...includes the exercise of routine or established and accepted control, or control which is exercised in such a way that it is clear that the right of request rests ultimately on the free consent of the other, and the other retains the residual right to protest or modify the request so that his own autonomy is not severely threatened (1950:182).

Following the Bales system, observers were trained to familiarize themselves with what amounts to "legitimized" power resting on "the free consent of the other." This is further emphasized by Bales.

> Includes all acts in which a recognized leader requests other(s) to do things as part of the routine mechanics of group management, or as administrative short-cuts to leader determined goals or group determined goals. The leader's requests may be unsolicited by the other and yet anticipate conformance on the part of the other, on the assumption that the leader is acting as a legitimate agent and instrument of the group (1950:182).

Support. The measure of support is Bales Category 1. Like the other categories in the system, this category at-

tempts to measure a range of behavioral manifestations of such dimensions as these: shows solidarity, raises the other's status, gives help, reward (1950). Bales says of the first of these, shows solidarity, that it

> ...includes any indications of mannerly consideration for the other, any indication of good will, any gesture that indicates that the actor is friendly, congenial, affiliative, cordial, or informal... any indication that the actor identified himself with the other, or confides in him, or entrusts the self to him... (1950:177).

Support for the other may be seen in all such behavior and also in the acts which raise the other's status

> ...all acts which have the specific aim or effect of raising or enhancing the other's status, whether the initial status of the actor is assumed to be higher than that of the other, or inferior to it... The range is thus very great, from comparatively minor degrees of raising the other's status to very extreme recognition of the other's superior status (1950:177-178).

Measures of the family power and support structure included a record of who initiated a particular act and to whom it was directed. Power and support acts establish the socialization climate for the socializee, therefore power and support acts directed to and received by the adolescent

child are the independent variables in this research. Observer error has been minimized by summing the scores of the observers for each trial, as was the case with all IPA data in the study.[3]

THE MEASUREMENT OF POWER AND SUPPORT

The measures of power and support described above involve the observation of behavior within an experimental situation. This method is of course not the only or necessarily the most commonly used in making such measurements. Darwin Thomas has reviewed a number of studies cited by various authors who attempt to relate support and power (or equivalents of these) to a variety of dependent variables (Thomas, et al., 1974). He found that three problems tended to be common to the studies reviewed: (1) they failed to measure both control (power) and support; (2) they failed to analyze for the joint effects of control and support; (3) a curvilinear relationship in the data precluded the use of dichotomous analyses.

Methodological difficulties arising from these problems produced what Thomas calls a "confusing array of 'findings' with respect to the consequences of support and control" (1974:9). Thomas' evaluation leads him to reject all findings except those of two studies by Maccoby (1961) and Sears (1961) relating to the high power, high support and low power, high support quadrants of the two dimensional property space. The Maccoby and Sears findings have to do with enforcement of

rules and with self-aggression. They are accepted by Thomas because they "do in fact have measures of both support and control variables, and... in fact analyze the data according to the joint effects of both variables..." (1974:6).

In order to accept these findings as in any sense definitive, however, obvious weaknesses must be overlooked. The samples in the Sears study, for example, were 4 and 10 (for the quadrants mentioned above, and can produce only the most tentative findings. In addition to these studies, the work of Heilbrun and his associates (Heilbrun, Orr, and Harrell, 1966; Heilbrun and Orr, 1964) adds to the empirical findings which enables Thomas to present a list of supported propositions relative to four different "control and support types" (1974:8). But Thomas is aware that the empirical ground for these types is weak. He writes that "the state of the art cries for more research in a number of different areas so that crescive theoretical development can occur" (1974:9). One of these areas must be the measurement of power and support, and here the theoretical orientation of the researcher can become an issue in itself.

INTERACTIONIST AND BEHAVIORIST APPROACHES

Thomas' theoretical stance is evident in his statment of the theoretical propositions which have empirical support. Each proposition is prefaced by these words: "<u>If a child reports</u> childrearing histories which are..." (emphasis added).

This is the symbolic-interactionist approach. Power and support are inferred from reports made by the child of his own experience. They are what the child remembers them to be. From this theoretical perspective, power and support are defined, substantively and operationally, in a way that differs sharply from the approach of this study:

> Support is here defined as referring to that quality of the interaction which is perceived by the investee (self) as the significant others establishing a positive affective relationship with him. Control refers to that quality of interaction which is perceived by ego as constraining him to do what the significant other wants (1974:10).

The symbolic interaction approach requires support and control measurements that ascertain the child's perception of how his parents socialized him, the kind of socialization climate they provided for him. To accomplish this, measurement techniques such as the Cornell Parent Behavior Description, the PARI developed by Schaefer (1965), and the Parent Image Differential developed by Ginsburg, McGinn and Harburg, are available (all are cited by Thomas, 1974).

A different approach to the measurement problem may be illustrated by the work of Straus and Tallman (1971). Here families are studied in a laboratory situation using the task adopted for this research. Power and support are measured by observations of the number of acts engaged in by

subjects which fit the categories corresponding to power and support acts. The symbolic interaction perspective obtains indexes of support and control by exploring the subject's perceptions of a wide range of experiences undergone in his lifetime. The behavioral approach obtains indexes of power and support by observing subjects in situations where they have the opportunity to exercise power or give support to others. In neither case is "power" or "support" observed. But the presence of power and support, and the strength to be assigned to each, is inferred on the basis of reported (interactionist) or observed (behavioral approach) indicators. A wide variety of acts indicate to the behaviorist that a subject is giving support to the other. He must infer from the nature of the act (including its non-verbal manifestations) whether an act is or is not supportive. Similarly, the interactionist must get at the perceptions of the subject by probing various levels of conscious recollection and infer from these the degree of supportiveness which went into his socialization. Inferences such as these are at the heart of sociological research and the problem they pose is a complex and difficult one.

FAMILIES IN PUBLIC AND IN PRIVATE

It is argued that when families are invited into a laboratory to participate in an experiment thse problems become insurmountable because families do not behave in public as they do at home. The extent of the difference is not known

since the argument logically leads to the conclusion that there is no way to study the family which would enable us to compare the public and private behavior of families. The introduction of an observer, even within the confines of the home, makes behavior "public" wherever it occurs. A more serious problem is raised by Zelditch:

> ...even though the laboratory family is simplified by comparison with the natural family, it is still complex compared to a pure laboratory group. The family brings with it into the laboratory a history, a culture, a social structure that is not under the experimenter's control. Not only does this encourage a weakness in experimental design in the technical sense, it also means too many things are going on about which the experimenter is ignorant; and some of these things may be relevant to his investigation (1971:65).

Zelditch is probably not saying here that other types of sociological research, e.g. the study of small ad hoc groups, avoid the "error" effect of variables extraneous to the research design. His point is that characteristics peculiar to the family make it so much more complex than the usual laboratory group that this problem of extraneous variables gets out of hand, and there is no way of knowing to what extent it does.

Having said this, Zelditch goes on to make a significant concession to those who justify the study of the family in

laboratory situations.

> ...there is no point in pretending that theories are always well-formulated, definite, and complete, or their variables always clearly general ab initio. And if they are not, the way in which the variables ought to be formulated, and just which ones we ought to omit, hold constant, or isolate in simplifying concrete situations are often unclear. When this is the case, we often must rely on quite concrete entities and study quite complex processes, hoping gradually to simplify them. In the meantime, because of our choice of a particularly strategic concrete entity we hope that nothing very important is being left out. Thus, in the early phases of formulation of a theory of vicarious learning, of identification with models and learning from them, we would probably choose to study this process in a family setting. The importance of power in socializing agents, the relative unimportance of nurturance, the way in which cross-sex identification operates, the role of attention to the same versus the opposite sex, and other variables would be comparatively unclear, though it would be fairly plausible that whatever they are they are bound to be true of families, and families bound to be an instance of the process (See Bandura and Huston, 1960; Bandura, Ross, and Ross, 1963; Bandura and Walters, 1963). Families might therefore

> be good groups in which to begin exploring such problems, and it should not be supposed that exploratory research is always observational while verification is always experimental. The replication of a process under constant conditions, assured only in laboratories, is useful in discovering regularities and even in defining phenomena that need to be explained, even where processes may not be unitary and variables unclear or confounded (Zelditch, 1971:67-68).

This research is an instance of the kind of exploratory study Zelditch had in mind. It is the kind that, with all his reservations about the use of families in experimental situations, he invites us to undertake with families. Furthermore, the fact that an experimental situation makes possible the behavioral measurements described above, providing operational definitions of power and support quite different from those of the symbolic interactionists, gives us the opportunity to test the results of these differing measuring techniques. It will be seen that the time dimension is an important aspect, with the symbolic interactionist techniques emphasizing the developmental aspects of socialization drawn from the <u>past</u>, and the behavioral approach emphasizing the <u>present</u> behavior of the socializing agents and the socializee.

NOTES TO CHAPTER TWO

1. Two particularly relevant differences between this research and that of Lanzetta must be noted. Lanzetta's studies of information search involved individual subjects not interacting with others. This study involves subjects particpating in groups made up of their own families. Since he worked with individuals, Lanzetta could not study conceptual structure as a function of socialization climates. A basic assumption of this research is that socialization climates can be reproduced when families interact in a laboratory setting. Sieber and Lanzetta (1966) simulated uncertainty and mediation processes by contriving training conditions and they obtained data supporting the notion that natural environments may incorporate these training conditions. It is contended here that bringing families into the laboratory brings the researcher closer to natural environments than is possible in the study of individuals or of ad hoc groups. This does not mean that we claim to reproduce the full range of family behavior in the laboratory. We can agree with Zelditch when he insists that "one cannot directly equate what takes place in laboratory groups with what takes place in natural families" (1970:70). His argument, however, is one which raises theoretical issues:

> Families are not small groups, small groups are not what experiments are about, and laboratory families

> are not in their natural state. With all three assumptions the basic difficulty lies in thinking in terms of entities (such as families, peer groups, army platoons, air crews) rather than variables (such as participation, resources, rigidity, or dependency). The basis of an experimental family sociology can be made unassailable only if states of the variables relevant to some theory, T, can be produced in the laboratory; if producing them there provides us with better evidence about T than we can obtain by other methods, and if T is applicable, among other things, to families. This foundation will support an experimental family sociology even though no laboratory groups, even a laboratory family, is like the family in its natural state. The logic makes the experiment relevant to families, not directly but indirectly; the experiment is relevant to some theory, the theory is relevant to families, and because of the logical link provided by the theory the experiment is relevant to families (1970).

One might ask why anyone should believe that the theoretical relationships described by Zelditch (in his theory, T) really do exist anywhere in a natural environment? Suppose we do produce states of a variable such as resources in the laboratory, how do we know that these states replicate the variable in its natural environmental state? If sociologists

had no other means of constructing and testing theory than that proposed by Zelditch, no doubt the variables would be replicated, but where is the connection between these variables and the real world? As Zelditch sees them, variables are ideas, and to accept his logic would be to accept the notion that ideas conform to life, a proposition that calls for a nominalist correction.

In the real world entities and variables are not mutually exclusive. They may be separated for theoretical purposes. Conceptual schemes may be created based on variables having no immediate reference to specific entities (Parsons), but testing a theory involves finding out whether specific entities vary as the theory says they should. There is no test unless an entity, a small ad hoc group or some other, is a part of the test. Whether tests involving one specie of entity (ad hoc small groups) provide information about another specie (families in their natural settings) is problematical. At any rate, it is not possible, as Zelditch suggests it is, to test a theory with ad hoc experimental groups and apply the findings pari passu to families. Theory can be derived from such findings (as it has been by Tallman, 1970), but it will not be family theory if it has not been tested on families. Where families and ad hoc groups have been tested under similar or identical circumstances, typically the results have not supported the notion that they are equivalent (Leik, 1963; Strodtbeck, 1954; Udry, Nelson, and Nelson, 1961).

Family members will be more likely to reflect the family's natural environment and variables as they occur within it than an ad hoc group composed of members who meet for the first time in the laboratory.

2. The difference between intrinsic and extrinsic reward conditions can be seen in the instructions given to each group presented in Appendix "C". "Intrinsic" reward instructions stressed the achievement of a high score as a reward in itself. "Extrinsic" reward instructions stressed the possibility of a higher monetary reward based on a high score. Although not part of the analysis, in effect the groups in the sample were controlled for intrinsic and extrinsic conditions.

3. An index of information seeking behavior constructed from these three measures will be described below.

CHAPTER III

ADOLESCENT INFORMATION SEEKING

The main purpose of what follows is to make an initial assessment of the data indicating the level of the child's information seeking in comparison with that of the parents, and on a broad aggregate level, to examine certain correlates of the child's information search (power, support, self-esteem) in order to suggest possible lines of explanation of that behavior. Before turning to this task, however, it will be necessary to develop further one of the insights in Tallman's discussion of family problem solving.

Tallman, it will be recalled, stressed the need for the family to change its structure over time, to become more flexible in its exercise of power, and allow the child to test his growing competence in the decision making process (Tallman, 1970:100). It is this insight which will be related here to recent discussions of adolescent irresponsibility having strong implications for an explanation of adolescent information seeking behavior.

It was mentioned at the outset of this study that the concern with information seeking behavior in the adolescent is limited to instances in which information is sought from objective and interpersonal sources within the context of

problem solving situations. Recent discussions of adolescent characteristics have emphasized two traits which are significant for adolescent information seeking.

On the one hand it is said that adolescents have not lost the uninhibited freedom to explore the world---an attribute perhaps more distinctive of childhood. The charge that adolescents in comparison to the dominant pattern of the adult male role (Parsons, 1942) are largely irresponsible, while somewhat overdrawn, has on the other hand been mitigated only to the extent that today we understand better the degree to which adults are responsible for adolescent irresponsibility (Cf. Musgrove, 1964).

THE ROMANTIC IMAGE

Kaspar D. Naegele found that teachers, especially women, tend to hold a romantic image of youth,

> one that equates virtue with innocence and unself-consciousness. Children are frank, open, and curious creatures, intent on a free exchange between themselves and the world, and as such they are a refreshing contrast to their more closed, more hesitant, more devious elders (1962:61).

This romantic view is the obverse side of a Christian attitude that interpreted the openness and curiosity of youth as signs of an original sin requiring salvation. The religious view affirms the same traits as the romantic view but interprets them as evil rather than good. A more realistic

view of adolescents is one which Naegele calls the secular view. It

> ignores any simple moral qualities in childhood, regards it as 'polymorph and perverse,' and sees youth as a period of search and a rebellion (active or passive), which can finally constitute a person capable of work and love---and as such progenitor of others. The Jewish and Greek traditions represent further variations in a similar direction (1962:61).

Again, the basic characteristics of the romantic image are affirmed, but under the influence of Freud and social science, purged of all judgmental evaluation, positive or negative. The secular view has about it the air of all things working together for good, since even those activities which may be beyond the pale of parental approval contribute to the questing youth's drive toward maturity, which is about as modern as the ancient idea of sowing one's wild oats.

None of these shifting views of the adolescent reaches the realistic level of this comment by Francis Bacon in his essay Of Youth and Age:

> Young men, in the conduct and manage of actions, embrace more than they can hold; stir more than they can quiet; fly to the end, without consideration of the means and degrees; pursue some few principles, which they have chanced upon, absurdly; care not to innovate, which draws unknown inconveniences; use extreme remedies at first; and, that

> which doubleth all errors, will not acknowledge or retract them: like an unready horse, that will neither stop nor turn.

Bacon impressus us with the headstrong, overconfidence of youth, plagued by inexperience more than by innocence. Even this more realistic attitude toward youth is not opposed to the view that youth are intent on a free exchange between themselves and the world or the view that sees youth as a period of search and rebellion.

Bacon of course wrote a few years before Blaise Pascal revealed the precocity of his scientific genius. He was twelve when he rediscovered by himself the thirty-second proposition of the First Book of Euclid (Pascal, 1948:9). Even if he had been aware of Pascal's genius, it is impossible to imagine Bacon envisioning young Pascals all over Europe reversing the processes of socialization to initiate their elders into the coming wonders of the scientific age because they had the most relevant information and ideas about the world then coming to be. (Cf. Elkin and Handel, 1972:149). If he had done so, he would have had at least as much reason as Margaret Mead has (1970) or for that matter as Theodor Roszak has (1969). Both writers, with equally romantic views of youth, think that youth have what it takes to save their elders from themselves.

The common denominator in these views of youth is the idea that youth may be expected to take the world on, alertly and vigorously, and when confronted with a problem, to attack from all possible angles until a solution is found. Not hav-

ing tasted the bitter fruits of experience, and thus defeat, they will be open to new possibilities and uninhibited in their exploration of the world about them. The jarring note in this triumphant tune, however, is the description of the youth culture as largely irresponsible and unlikely to approach the world with the expected enthusiasm.

YOUTH CULTURE

Talcott Parsons has stressed the development of a distinctive youth culture in American society discontinuous with both childhood and adult socialization. The implication is that youthful energies are directed to irresponsible ends: having a good time, being preoccupied with the opposite sex, indulging in athletics. In school, doing "good work" is, it is true, an important source of parental approval, but "it is notable that the youth culture has a strong tendency to develop in directions which are either on the borderline of parental approval or beyond the pale, in such matters as sex behavior, drinking and various forms of frivolous and irresponsible behavior" (1942).

Since it first appeared, Parsons' delineation of a youth culture has been the subject of recurring debate. In the main, arguments have dealt with the extent to which youth culture is discontinuous with childhood and adult socialization (Cf. Elkin and Handel, 1972, for a review of the literature). The argument is not whether adolescents are or are not irresponsible. The issue is the source of adolescent ir-

responsibility, with Parsons and his followers seeing it as more or less generated within the youth culture itself and apart from adult influences. Coleman's study of adolescent society (1961) provided extensive but inconclusive evidence for discontinuity. He sees minimal connection between adolescent and adult societies, with more value placed on popularity and athletics than on academic performance in the adolescent society, and generally, with intellectual values having little to do with peer popularity. Coleman also sees the irresponsibility pattern in his data, especially in youth's preoccupation with cars and their paraphenelia (Cf. Elkin and Handel, 1972:147).

Among the dissenters, Bennett Berger argues that Coleman's data will support exactly the opposite interpretation. He says, rather cogently

> From Coleman's treatment of the adolescent 'subculture' one might think that cars and masculine prowess and feminine glamour and social activities and sex and dating were concerns entirely alien to American adults (1963).

Berger points out that the schools sponsor athletic and social events intended to train youth to assume adult responsibilities. The activities of adolescence rather than being discontinuous with adult society represent a form of anticipatory socialization.

Elkin and Handel review the debate over youth culture and conclude that

> the evidence to date suggests that, with regard to fundamental values, the continuity of adolescent socialization with adulthood outweighs the discontinuity. Adolescent values and behavior have been more reflective of adult values and behavior than either Parsons or Coleman believes to be the case. But today the situation seems more in flux than before (1972:149).

This statement does not deal with the problem of adolescent irresponsibility unless we assume that adolescents are irresponsible because they learn to behave irresponsibly from their elders. Perhaps the correct perspective on the relationship between adult values and adolescent irresponsibility can be seen in the views of Bert N. Adams:

> Adolescents in general reflect adult values, with an overlay of supposedly distinctive youthful interests. Irresponsibility is forced upon them by adults; as long as they stay out of the way and continue preparing for 'legitimate' adult roles, they are tolerated. In other words, adolescents generally accept the dominant values and culture, but they are not allowed into the dominant society in a responsible way (1971:166-167).

If Adams is correct adolescent irresponsibility is not a function of the rejection of adult values but results because adults shut adolescents out of societal decisions where

they might test their competence in responsible roles.

IRRESPONSIBILITY AND PROBLEM SOLVING

The question which follows from the preceding discussion concerns how adolescent irresponsibility affects the openness and enthusiasm of youth in problem solving situations. Tallman developed from his study of small groups findings a set of propositions or specifications which apply this research to families. His intention was limited to the delineation of an ideal typical optimum problem solving family unit (1970). The propositions therefore represent requirements revealed by small groups research to be indispensable for the optimum problem solving family to develop. The first proposition states that effective family problem solving requires open channels of communication for all family members competent to contribute to a problem solution.

With this proposition in mind, we can ask whether youth are likely to be invited in a society which excludes them from responsible participation to join in efforts to solve family problems within their own families. If the exclusion is sufficiently pervasive that the only answer is a negative one, youth may be said to experience a degree of isolation from their parents which will have a direct effect upon their information seeking performance when they interact with their parents in problem solving situations. A primary objective of this research is to discover whether this might be the case among youth in contemporary society in America.

Table 1. Total acts initiated by family role.

Actor	Mean number of Acts	S.D.	Per cent of total*
Father	232.0**	110.4	39.8
Mother	181.4	89.6	30.9
Child	161.3	102.1	28.4

*Per cents do not add to 100 due to rounding.

** The following tests of significance were made:

Father compared with mother, $t = 2.08$, $P < .025$

Father compared with child, $t = 3.70$, $P < .005$

Mother compared with child, n.s.

Table 2. Mean number of IPA acts by initiator and receptor.

Initiator & Receptor	Mean number of acts	S.D.
Father to Mother	85.9*	46.6
Father to Child	66.7*	58.8
Father to Mother & Child	68.4	47.2
Father to Experimenter	7.7	12.2
Mother to Father	75.2**	50.7
Mother to Child	49.1**	31.8
Mother to Father & Child	46.8	24.1
Mother to Experimenter	2.9	5.2
Child to Father	55.2	50.6
Child to Mother	50.7	42.5
Child to Father & Mother	49.4	39.8
Child to Experimenter	2.5	3.7

* For the difference in these means, t = 2.12, P= .025
** For the difference in these means, t = 1.91, P= .05
Both t-tests one-tailed.

ADOLESCENT ISOLATION

If the question of adolescent irrresponsibility is relevant to information seeking behavior, questions come to mind readily to direct to our data. If the adolescents in the sample are as irresponsible as young people of their age are thought to be, the data should show them to be less active than their parents in the experimental situation, and less likely to engage in information seeking behavior. The opposite would be true if they fit the romantic image that Naegele found was held by teachers. The romantic image calls for youth to take a more active part than their stodgy parents. Table 1 shows that in terms of the mean number of acts initiated by the participants in all categories a hierarchical pattern emerged. Fathers took the lead as the most active, the mothers came next, and the children were the least active. These findings indicate some dampening of that youthful enthusiasm which the romantic image would lead us to expect. They do not testify directly to adolescent irresponsibility, but they indicate a much lower level of activity than we would expect of youth deeply involved with their parents in solving a problem.

The evidence for the isolation of the children from their parents during the interaction can be seen in Table 2 which gives the mean number of acts directed by each actor to other family members, individually and together. It shows that more interaction took place between the parents than be-

Table 3. Mean scores for measures of information search by family role.

Family Role		Cards*	BSR-IS**	Bales 7***	% of actor's Total IPA
Father	Mean	2.66	22.7	22.7	11.0
	S.D.	4.34	6.9	14.7	
Mother	Mean	1.50	23.6	21.6	13.1
	S.D.	2.01	5.7	12.1	
Child	Mean	1.28	22.3	13.7	9.7
	S.D.	1.76	5.7	13.9	

*Objective source: number of information cards taken
**Self-evaluation
***Interpersonal sources
t-tests for the following differences:

Cards: Father and Mother, t= 1.41, n.s.
Father and Child, t= 5.52, P= .001
Mother and Child, t= .47, n.s.

BSR-IS: Father and Mother, t= .58, n.s.
Father and Child, t= .26, n.s.
Mother and Child, t= .90, n.s.

Bales 7: Father and Mother, t= .27, n.s.
Father and Child, t= 2.58, P= .01
Mother and Child, t= 2.49, P= .01

All one tailed tests.

tween either parent and the child. While these mean scores indicate no more than relative isolation of the child, the pattern is clear enough for us to suspect that parents in the sample were not unlike the society as a whole in excluding adolescents from full responsible participation in the problem solving process. The hierarchical pattern, especially, does not encourage us to believe that these parents had relinquished their parental prerogatives to allow their adolescent children to demonstrate their competence in contributing to a solution to the problem that confronts them.

INFORMATION SEEKING

These indications of the isolated and irresponsible patterns among adolescent youth lead naturally to the question whether the measures of the child's information seeking behavior also provide support for this interpretation. The mean scores on all three measures of the child's information search are given in Table 3. They include a measure of interpersonal information search derived from the Bales Category 7, which it will be remembered is a measure of the frequency with which the actors sought information or orientation from one another during the course of the experiment; a measure of the frequency with which information was sought from an objective or authoritative source in the form of "information cards", easily available to participants; finally, a measure of each actor's self-rating as an information seeker, the BSR-IS index described above.

Interpersonal information search. The measure of interpersonal information seeking is given in two forms in the last columns of Table 3: the actual mean observation scores based on the raw data, and the same mean scores expressed as a per cent of the total IPA interaction of each actor. We do this because the means based on raw data show that in terms of the actual number of information seeking acts scored by observers the child's information seeking score is much below that of either of his parents. These scores probably reflect the greater activity level which we found in the parents, and on this basis, the father turns out to have the highest mean score, slightly above that of the mother. When these scores are expressed as percentages of each actor's total IPA activity, however, the differences are not as great and the mother's score is easily the highest of the three. Also, the child's score, which is almost 10% of his total activity, compares more favorably with that of the father expressed in this way. The question, then, is whether the child's relatively low score in interpersonal information seeking behavior is a function of his relatively low activity level and ultimately of being somewhat isolated within the three-person interaction. The scores would be very difficult to explain on the basis of a romantic image of the adolescent.

Seeking information from an objective source. The number of information cards taken is a measure with the faculty of being able to tell whether parents were willing to relinquish

some status prerogatives during the interaction. One of these prerogatives involves parental priority when it comes to dealing with sources of information outside the family, Traditionally, the father would be expected to exercise this kind of leadership. If the total activity of an actor is a measure or his relative power within the group,[1] it would seem that the traditional prerogatives have not been relinquished.[2] The scores reflect the hierarchical power structure of the family, although only the difference between the father's and the child's mean scores is statistically significant.

Actors' self-rating as information seeker. Unlike the other measures, the BSR-IS is a self-report rather than a behavioral measure. It tells us how subjects rated themselves as information seekers. The mean scores show very little difference. This is not surprising, since these scores should be assessed against the relative differences in the behavioral measures. Support is found here for the notion that, although adolescent youth do not differ from their parents in conceiving themselves as information seekers, they are inhibited from performing according to their self-concept by parental status prerogatives.

INFORMATION SEARCH INDEX

The three measures of information search, information cards, the BSR-IS index, and the Bales measure of interpersonal information seeking, were converted to decile scores

separately for each actor (Cf. Blalock, 1960), and the decile scores were summed individually to yield an information seeking index (IS index) for each actor. This decile conversion insured equal weighting for all components of the IS index, especially since the measures were quite diverse. By converting them to a standard score, excessive influence by one measure was avoided. Within each measure, decile scores also have the effect of preventing a few extreme cases from biasing the results. This is important in studies such as this with a relatively small sample. Perhaps it should be mentioned that the measure of interpersonal information search, Bales Category 7, for the purpose of calculating decile scores, was not the mean scores presented in Table 3. Rather it was the percentage of each actor's total activity which observers recorded as asking for information or orientation (last column of Table 3). Table 3 shows that this manipulation of the data had the effect of minimizing differences between the child's score and that of each parent. It also shows that mothers were easily the most active in this category. A little over 13% of their activity was ascribed to Category 7.

The child's IS index was the lowest of the three (9.5). The parental scores are fairly equal, with mothers having a slight advantage (11.9) over fathers (11.5). These scores reflect the weights of component scores presented in Table 3. They indicate that after the most careful manipulation of the

Table 4. Product moment correlations of the child's IS measures and power, support, and the child's self-esteem.

Variable	Number of Cards	BSR-IS	Bales #7	IS index
Power	.00	-.17	-.11	-.12
Support	-.06	-.34*	-.36*	-.38*
Child's Self-esteem	.22	.54**	.47**	.57**

*P= .05
**P= .01
***P= .001

data to arrive at a conservative estimate of each actor's information seeking behavior the pattern which appeared in the separate measures maintains itself. The child's IS index is below that of the parents and what would be expected if the adolescents fit the romantic image. The pattern of IS index scores for the parents and the child indicates rather that the child is relatively isolated from the parents and operates under the inhibitions of enforced irresponsibility.

FACTORS ASSOCIATED WITH CHILD'S INFORMATION SEARCH

If we turn now to the relationships among these variables measured as indicated above and the other principal variables in the research design, some initial tentative explanations for the findings may be put forth. Table 4 presents the relevant correlations.

Power. Power here refers to the frequency with which the child was on the receiving end of suggestions and directions from parents during the experiment. The data show no relationship between the frequency with which the child took information cards and this measure of power. There was a weak negative association between power and the other two IS measures. The result is a similarly weak negative association with the IS index.

These negative correlations are inconsistent with the fourth hypothesis drawn from the theory of information seeking behavior presented in Chapter One. According to that hypothesis, greater levels of information search were expected

in the high power (and high support) socialization climate. The fact that the results do not support this hypothesis may be related to Tallman's view that optimum power varies with the stage of the family's life cycle (see Chapter One), i.e. that the family must become more open over the cours of its life cycle. Thus, while high power may be associated with socialization for information seeking when the child is quite young, if high power persists into adolescence it may become an inhibiting force reducing the level of the child's information search. The emphasis in this chapter on the isolation and enforced irresponsibility of the child is intended to supplement the previous theoretical discussion to take account of this possibility. By the time the child reaches adolescence, in other words, high information search will be associated with a family socialization climate in which parents relinquish some of their power prerogatives. The negative correlation of power with the IS measures presented in Table 4 raise this possibility. They are not strong enough to be conclusive, however.

Support. By support we mean the frequency with which the child received help, encouragement, reward, or status enhancement from the parents. The pattern of relationships between support and the information search measures is similar to that which we found in the power correlations, except that the associations are stronger. In each case the association is negative.

The data show that when parents helped, encouraged, rewarded, or enhanced the status of their child, the child responded by seeking less information from them. These findings contradict the fourth hypothesis, as did the association between power and the child's information seeking behavior; they can be explained if we keep in mind that the children studied were adolescents. Presumbably, they had reached the age when they might expect a measure of responsibility to be given them by their parents. When suggestions were made to them or they were directed to act in a certain way, the implication was that responsibility had been withheld. In line with the discussion of power, the data indicate that where power and support are low parents have set aside considerations of hierarchical power and status and have allowed youth to exercise responsibility themselves. More fully involved in the problem solving process, these children sought more information from their parents. At the least, this is a stong possibility which will be followed up as the study proceeds.

Self-esteem. The association between self-esteem and the information search measures is important for this study. The measure of self-esteem included four items for each of four content areas in which subjects rated themselves: assertiveness, likeability, intelligence, and responsibility.[4] Table 4 shows that this mesure is strongly related to two of

the IS measures and the IS index, all positively. The measures were the BSR-IS index and interpersonal information search (Bales Category 7). That with the index itself was the strongest of all, while only the correlation with the number of information cards taken was not significant. The latter finding may indicate that status considerations were more durable with respect to objective or expert sources. The positive association, then, may mean that high self-esteem is associated with setting aside status considerations so that the child takes the information cards himself (or is permitted to do so) rather than deferring to the father's privilege in dealing with "outside" authorities. The strong association of self-esteem with the child's IS index may also be related to the willingness of parents to relinquish power and status privileges over the life cycle of the family. The data point to the possibility that self-esteem is highest among adolescents who have been given more opportunities by their parents to exercise responsibility and test their growing competence.

SUMMARY

We have seen that adolescents in the sample had lower activity levels than their parents, and were relatively isolated from parents in that their parents interacted at a greater rate with one another than either did with the child. Also, adolescents scored below their parents on all measures of information seeking behavior. The possibility was raised that these relatively low scores were a function of the youth culture. Low information search was found to be associated with

high parental support and power (contrary to the hypothesis) and (consistent with the hypothesis) with low self-esteem. The evidence is not conclusive at this point, but an important focus has emerged in determining whether the irresponsibility thought to be typical of the youth culture has at least part of its origins in the subordinate role which parents permit adolescent children in the family problem solving activities.

NOTES TO CHAPTER THREE

1. Cf. Hare (1962) on the significance of interaction rates; for individual persons, specialization on the side of activities characteristic of task leadership is generally associated with high gross interaction rates. Persons with relatively lower rates tend to assume roles of supporting, modifying, qualifying, or rejecting. (1962:177).
2. Further support for this interpretation can be seen in the comparative means scores by actor of acts directed toward the Experimenter during the experiment. The father's mean score was more than the combined totals of the mother and child.
3. Cognitive style variable will be presented in a more appropriate place below.
4. This variable will be described in more detail below.

CHAPTER FOUR

FAMILY STRUCTURE:[1] PARENTAL POWER & SUPPORT

A statistical correlation showing an association between variables is the kind of teaser that tempts us to dig deeper into the nature of the association to see if causal inferences can be imputed or some kind of explanation provided. The association between adolescent information seeking and parental power and support is no exception. We want to know what families are like when we find that the adolescents in them are less active than their parents in seeking information in a game situation. What is it about these families that inhibits the curiosity of youth? The attempt to answer this question will involve an analysis of the power and support structure of the families in the study. We will also have some observations to make on the probable flexibility of that structure and the self-esteem of family members.

PARENTAL POWER

The possibility has arisen that when the child has reached adolescence high levels of power are likely to inhibit more than encourage information seeking behavior. That is the implication of the weak negative correlation between power acts directed to the child and the child's information seeking behavior. It is our purpose at this point to analyze parental power through the interaction process analysis data (IPA) derived from the observations made during the experiment.

Table 5. Percentage distribution of IPA acts by family role: percent of the total number of family acts initiated or received in each category.

CATEGORY	PERCENT INITIATED BY: FATHER	MOTHER	CHILD	PERCENT RECEIVED BY: FATHER	MOTHER	CHILD	OTHERS*	"E"	TOTAL
1. Solidarity	4	3	3	2	2	3	2	0	10
2. Tension release	3	4	4	1	2	1	7	0	11
3. Agrees	1	1	1	1	1	1	0	0	3
4. Suggests, directs	8	3	4	3	5	4	2	0	15
5. Gives opinion	5	5	4	4	4	3	4	0	15
6. Gives orientation	11	8	7	7	7	5	7	0	26
7. Asks orientation	4	4	3	3	2	2	1	2	10
8. Asks opinion	1	1	0	1	0	0	0	0	2
9. Asks suggestion	0	0	0	0	0	0	0	0	0
10. Disagrees	1	1	1	1	0	1	0	0	2
11. Shows tension	1	2	2	0	0	0	4	0	5
12. Shows antagonism	0	0	1	1	0	0	0	0	1
Totals**	39	32	30	24	23	20	27	2	100

* "OTHERS" = Acts directed to more than one other member of the group, e.g. the father to the mother and the child.
"E" = The experimenter.
** Total acts initiated do not equal total acts received due to rounding.

Table 6. Percentage distribution of IPA acts by family role: percent of each actor's total number of acts initiated or received in each category.

CATEGORY	% OF TOTAL INITIATED BY: FATHER	MOTHER	CHILD	% OF TOTAL RECEIVED BY: FATHER	MOTHER	CHILD	OTHERS*	"E"
1. Solidarity	11	9	11	7	11	14	9	0
2. Tension release	8	14	13	6	6	6	23	0
3. Agrees	3	4	4	6	4	4	0	0
4. Suggests, directs	17	9	11	11	20	20	8	0
5. Gives opinion	17	15	15	16	16	15	14	0
6. Gives orientation	27	24	23	28	28	23	25	1
7. Asks orientation	10	13	9	12	7	11	5	98
8. Asks opinion	1	2	1	3	2	2	1	0
9. Asks suggestion	1	1	1	1	1	1	0	0
10. Disagrees	2	2	3	4	2	3	0	0
11. Shows tension	3	7	7	2	1	2	15	1
12. Shows antagonism	1	1	3	3	2	1	1	0
TOTALS**	101	101	101	101	100	102	101	100

*OTHERS = Acts directed to more than one other member of the group, e.g. the father to the mother and the child.
"E" = The experimenter
**Totals do not add to 100 due to rounding.

The data are presented in two forms. In Table 5 we have included the percentages by family role which each category of behavior makes up of the total of all acts recorded during the experiment, both initiated and received by actors. For example, 4% of all the acts initiated by family members were acts of solidarity initiated by the father, while 3% of all acts received by family members were acts of solidarity received by the child. Table 6 is based on the same data, but in this case the date are manipulated to take account of the differing activity levels characteristic of the different roles. The percentages in Table 6 are the percentages of each actor's total activity reported for each category during the interaction. Thus, to take the same example used above, 11% of all the acts initiated by the father were acts of solidarity, while 14% of all the acts received by (or directed to) the child were acts of solidarity. Manipulating the data in this way does not change the relationships among the categories and it provides a more adequate picture of the interaction than either presentation apart from the other. Table 5 focuses on the individual functioning within the group; Table 6 on an individual's behavior in the various separate categories in relation to his overall behavior.

Each of the three problem solving categories (4, 5, 6) is in itself a measure of the actor's power, but it is inherent in the nature of these acts that suggestions or directions.

(Category 4) represent more power than giving opinions (Category 5) and these in turn are more powerful than providing orientation or information (Category 6). These differences in the level of power of problem solving acts make separate analyses of the data advisable for each category.

Suggestions or directions (Category 4). The extent of the father's domination is clearly visible in this category of the interaction, the most powerful of the problem solving categories. The relationship holds whether the father's contribution is analyzed in terms of its relation to the total activity of family members (Table 5) or as a percentage of his own activity (Table 6) apart from the others. In either case, his power is virtually equal to the combined power of the other two actors. We found a hierarchical structure when we considered the activity levels of the three actors in the previous chapter. Here, however, the structure of the rates at which family members made suggestions or gave directions to the others is a father-dominant one and the children had a slight edge on the mothers. These results are similar to those which Straus found (in Aldous, et al., 1971) in the Minneapolis portion of his study of social class and sex differences in socialization for problem solving. The principal difference was that Straus found a slightly higher power score for mothers than for children in his Minneapolis families.

Both the Straus research and this study, in other words, show that the mother's mean power score was much lower than

that of the father, and in this study, the child had a little higher mean power score than the mother. These findings are quite different from those of Thomas et al. (1974:16) who found that adolescents in their Minneapolis and St. Paul samples reported child-rearing histories in which mothers were more controlling than fathers. They measured control with the Cornell Parent Behavior Description (short form)[2] and found that the relation held when controls on family size, sex of the child, and social class were introduced.

The Cornell instrument encourages the child to think of each parent apart from the other, rating each separately on four dimensions of control. These dimensions involve how strict the parent is, whether the parent pushes the child to do his or her best, keep his or her things in order, and keeps after him or her to do well in school. The assumption is that over time innumerable parental acts coalesce into a point of view toward each parent with respect to each of these dimensions. Data are presented not only for the Minneapolis and St. Paul samples but also for adolescents in San Francisco, New York, San Juan (Puerto Rico), and Merida (Yucatan). While the mean control scores for mothers rise somewhat for the more traditional societies (San Juan and Merida) over those for mothers in the American cities, the pattern of slightly higher control scores for mothers over fathers maintains itself wherever data was obtained. In only two mean scores presented (St. Paul males and St. Paul white collar occupations) are the mother and father control

scores equal. In all other cases mothers have higher mean control scores than fathers.

The regularity of this pattern across cultures is surprising. It means that the same relationship may be expected whether one lives in San Juan (Puerto Rico), Merida (Yucatan), or New York City. In contrast, Straus found that fathers in Minneapolis had higher power scores than mothers, and both mothers and fathers in Minneapolis had higher power scores than their San Juan counterparts (in Aldous, et al., 1971). And also, the mean power score for San Juan mothers was below that of the Minneapolis mothers. These differences can be attributed to cultural differences between Minneapolis and San Juan, but they do not appear in the data obtained by Thomas et al. Does this mean that the results obtained by Thomas et al. are actually an artifact of their measuring instrument? As noted above, Straus used a measure of parental power which was similar to the one used in this study.

It is possible that the data obtained by Straus and this study are not representative of true relationships but reflect the more or less traditional norm of Western societies that gives most power to the father. This would mean that parents in public do not behave as they do in private but tend to act more in terms of expected or normative patterns. Leik (1963) found that sex role differentiation tended to disappear in family interaction but the affect on consensus and satisfaction of instrumentality and emotion-

ality after consensus was different in stranger groups than in family groups. He concluded that

> The traditional male role (instrumental, non-emotional behavior) as well as the traditional female role (emotional, non-task behavior) appear when interaction takes place among strangers (1963:144).

It cannot be denied that such tendencies are present whenever family members interact in the presence of strangers, as they do during experimental research. The question is how strong the tendency is to move away from the undifferentiated roles of private interaction toward the traditional patterns? In Straus' data (in Aldous, et al., 1971) working-class mothers and fathers in Minneapolis had almost identical power scores, while the mean power scores of the middle-class fathers was almost double that of middle-class mothers. The working-class fathers may have been faced with conflicting normative demands. On the one hand it is a working class norm to leave the child-rearing function to the mother (Bronfenbrenner, in Maccoby, Newcomb, and Hartley, 1958) and on the other hand the working class male claims authority on the basis of traditional or ideological patriarchy (Adams, 1971:260). He is supposed to be the boss.

Straus' data suggest that no matter how ego-gratifying it might have been for his working-class fathers to assert themselves in accord with the traditional patriarchal claim, their long experience of leaving the child-rearing function

to the mother took its toll, and in this case, it may be argued that the public behavior of the fathers was an accurate reflection of their private behavior.

The trouble with attributing a change in public behavior to a normative demand is that almost any mean power score could be explained in this way. If the father's score had been very high rather than low (as was the middle-class father's) it would then be possible to say that it was high because the father was responding to the normative demand that he exercise his patriarchal authority in public, even though he does not behave that way in private.

Straus' data illustrate the difficulties in imputing to normative demands the changes which are supposed to take place in family behavior when family members interact in public. Everyone knows that there is a difference, and everyone can locate a normative demand to "explain" the difference. But in this case the data show that it is not a simple matter to decide which normative demand is actually at work in a specific instance. Perhaps family members are not quite the chameleons we have taken them for. Willing or not, they may not be able to put aside behavior patterns in public which have had ample opportunity to form in private.

The data upon which Leik (1963) based his conclusions, it should be pointed out, was obtained by comparing three-person experimental groups in which all members were of the same family with similar triads of strangers. The variable, then,

was not private family interaction versus public, but interaction within family groups versus stranger groups. In either case, the interaction was public. It occurred in the public view of the experimenter. In other words, Leik's data was obtained the same way that it was obtained in this study.

Does this mean that there is no tendency for family members to alter their behavior in public? Not at all; it means that we must not assume that the tendency manifests itself whenever families are brought into a laboratory for research purposes. It means that the question of explaining such tendencies by imagining some normative pressure is not as simple as we might suppose. Finally, it means that there may be certain types of behavior sufficiently built into the personalities of family members that not even public exposure is likely to alter them a great deal. We would argue that this is the case with the power (and support) scores obtained in this research. When compared with the results of other types of research (e.g. Thomas, et al., 1974), they appear to give a better picture of actual family relationships.[3]

The fact that the mothers had little power when interacting with fathers and children does not mean that the familiar picture of equalitarian marriage in American society is completely out of focus (Cf. Dyer and Urban, 1958; Blood and Wolfe, 1960). That picture is primarily concerned with

Table 7. Power acts (Bales Category 4) by initiator and receptor.

Initiator & Receptor	Mean Number of Acts	Percent of Initiator's total activity
Father to Mother	19.62	8
Father to Child	16.82	7
Father to Mother & Child	7.44	3
Father's Total	43.88	18%
Mother to Father	7.9	4
Mother to Child	7.5	4
Mother to Father & Child	1.6	1
Mother's Total	17.0	9%
Child to Father	8.4	5
Child to Mother	8.7	5
Child to Father & Mother	3.4	2
Child's Total	20.5	12%

The difference in means for the Father and the Mother (Total mean scores) was significant at the .005 level, $t = 3.17$, one tailed test.

The difference in means for the Father and the Child (Total mean scores) was significant at the .01 level, $t = 2.63$, one tailed test.

the relative power of husbands and wives in the decision-making process. The dominant role of the husband in this study supports the belief of William Goode that middle-class or educated men manage to wield the power in the home although they express the norm of equalitarianism (1963). Kerckhoff and Bean found that high- and middle-status couples were agreed that the husbands were behaviorally, but not ideologically, more dominant than their wives (1970; Cf. Adams, 1975:278).

The extent of the father's domination in this study can be seen in Table 7 which gives the distribution of power acts in this category by initiator and receptor. Both the mother and the child received many more suggestions and directions from the father than either directed to him or to one another. Particularly striking is the rate at which the father made suggestions or directions to the "others" (i.e. to the mother and the child in the same act), since it was well above the comparable rate of either of the other actors. The fathers were in command of the activity during the course of the interaction.

Gives opinion (Category 5). Opinions were exchanged at a more even rate than suggestions or directions. Mothers and fathers especially contributed opinions at almost the same rate (Table 5), and while the children did so at a slightly lower rate, their contribution was nearly equal to that of the parents. The relatively high rate at which opin-

ions were directed by one actor to both of the other actors is another indication of the freedom with which family members exchanged opinions. Children were least likely to be on the receiving end of an opinion, however.

Gives orientation (Category 6). This is the most active category in the IPA data and fathers were most active in initiating activity in this category. This is also one of the categories in which an actor was likely to direct an act to both of his partners as readily as to one of them. An opinion or an item of information or orientation is of value to all members of the group in their cooperative efforts to solve a problem. Once again, however, the rate at which the child initiated and received orientation or information was the lowest of the three actors, as was true with respect to opinions (Category 5).

Summary. The net effect of behavior in the three problem solving categories may be seen by considering them in reverse order. That is, all actors engaged in providing orientation and information at a high rate, although the highest rate was that of the father. Opinions were exchanged freely by members, if the fact that the rates for all actors were substantially the same indicates a general lack of inhibition in offering opinions. What stands out in the data, however, is the fact that the decisive action, in the form of specific suggestions or directions, was more often than not the province of the father. He seems to have been the one most likely to assess the available information and ideas and

to resolve questions of what to do by proposing specific courses of action. In doing so, he made suggestions and gave directions at a high rate to both the mother and the child (Table 7) either separately or together and was much less likely to be on the receiving end of the similar behavior of his partners. It seems fair to say, then, that to the extent that parental power inhibits the information seeking behavior of the child, the father, by virtue of his power, is the principal source of that inhibition.

PARENTAL SUPPORT

The correlation between power acts directed to the child and the child's information seeking behavior was not strong enough to provide more than an indication of a relationship between these variables. That between supportive acts directed to the child and the child's information seeking index is much stronger. It is also negative, indicating that the more parents attempted to increase solidarity with their children by encouraging them or raising their status, the less likely the children were to seek information from them during the experiment. This unexpected correlation raises the issue of the kind of support structure that characterized families which took part in the research. For access to that structure, a more detailed analysis of the IPA data in Tables 5, 6, and 7 is necessary.

The three positive social emotional categories all represent forms of support directed by an actor to one or both

of his partners, but as was true of the relative power inherent in problem solving acts, differences exist in the level of support which may be imputed to the positive social emotional acts. Acts of solidarity (Category 1) are inherently more supportive than acts which allow tension to be dissipated (Category 2) and both carry more supportive weight than the mere indication of agreement (Category 3).

Solidarity (Category 1). The father's dominance in terms of power acts, primarily instrumental, fits that part of the theory of role differentiation advanced by Talcott Parsons (1955). According to Parsons, differentiation with respect to husband-wife roles follows a pattern in all nuclear families along the instrumental-expressive axis. Fathers may be expected to provide instrumental leadership, and mothers expressive. Slater (1961) argued that such differentiation "is an optional feature of nuclear family structure and that under some conditions...it may...impede identification with the same-sex parent and affect adversely the personality development of the child." Slater did not deny that the differentiated family was a prevalent feature of American society, but contrary to Parsons, he showed quite clearly its dysfunctional potential and argued persuasively for closer attention on the part of sociologists to the undifferentiated family. In a study of working and middle class families in a laboratory situation, Straus (1967) found that, particularly in the middle class, husbands were predominant in both instrumental and expressive roles, contrary to the theory of Parsons.

Table 8. Support acts (Bales Category 1) by initiator and receptor.

Initiator & Receptor	Mean number of acts	Percent of initiator's total activity
Father to Mother	8.26	4
Father to Child	8.71	4
Father to Mother & Child	5.44	2
Father's Total Support	22.41	10%
Mother to Father	5.25	3
Mother to Child	7.32	4
Mother to Father & Child	3.79	2
Mother's Total Support	16.36	9%
Child to Father	4.82	3
Child to Mother	7.06	4
Child to Father & Mother	4.76	3
Child's Total Support	16.68	10%

The difference in total support means for the Father and Mother was significant at the .05 level, t= 1.94, one tailed test.

The difference in total support means for the Father and Child was significant at the .05 level, t= 1.55, one tailed test.

This study makes use of the same task as the Straus study but differs in the measurement procedures by which power and support were recorded.[4] The two studies, however, obtained similar results. Fathers in this study (also drawn from the middle- and working-classes) were leaders in both instrumental and expressive roles. This can be seen in Table 8 which presents the mean number of acts of solidarity by initiator and receptor. Fathers engaged in more acts of solidarity than either of the other participants, although in terms of the percentage of the actor's total activity ascribed to this category, fathers and children were fairly close. Mothers, however, were least active in this respect. Thus, to the extent that both leadership roles, instrumental and expressive, were centered in the father, these families tend to fit the undifferentiated model described by Slater.

Tension release (Category 2). The principal dimensions of this category are those in which the actor expresses spontaneous relief, jokes, or responds positively to another's jokes (Bales, 1950:179). Thus tension release, while undoubtedly supportive, does not imply that the actor is invested with the same degree of leadership in expressive behavior as is true of acts of solidarity (Category 1). Actually, the fathers in this study were less active with respect to this category than either the mothers or the children. Of the three, the mothers were the most likely to have such acts directed to them, although the largest proportion were direct- to "others" (one actor directing his act to both of his part-

Table 9. Mean scores of acts of agreement, Bales Category 3, by initiator and receptor.

INITIATOR AND RECEPTOR	MEAN
Father to Mother	3.1
Father to Child	1.5
Father to Mother & Child	.4
Father's Total	5.0
Mother to Father	4.5
Mother to Child	2.0
Mother to Father & Child	.3
Mother's Total	6.8
Child to Father	3.8
Child to Mother	2.2
Child to Father & Mother	.2
Child's Total	6.2

ners at once) which is not surprising.

Agrees (Category 3). This category is chiefly important as a measure of the extent to which the leadership provided by the father is confirmed by agreement from other members of the family, espeically the father's role as instrumental leader. The data at this point are not impressive. A relatively small proportion of the activity was recorded by observers in this category. Furthermore, given the father's advantage in initiating suggestions and giving directions, the fact that he received about the same amount of agreement as the other actors (Table 9) does not testify to a great deal of support for his leadership. Even taking into consideration the fact that the task activity involved more motoric than cognitive behavior, the levels of activity in this category are low. Table 9 shows that in terms of the mean number of acts of agreement families in the study were not highly supportive of one another. The fathers did receive more of this kind of support than either the mothers or the children, and the children received least, but compared with the mean number of power acts (Category 4) presented in Table 7, we would expect higher rates of agreement. There is incidentally further evidence of the child's isolation in these data. The child initiated suggestions and gave directions at a higher rate than the mothers, but more acts of agreement were directed to the mothers than to the child.

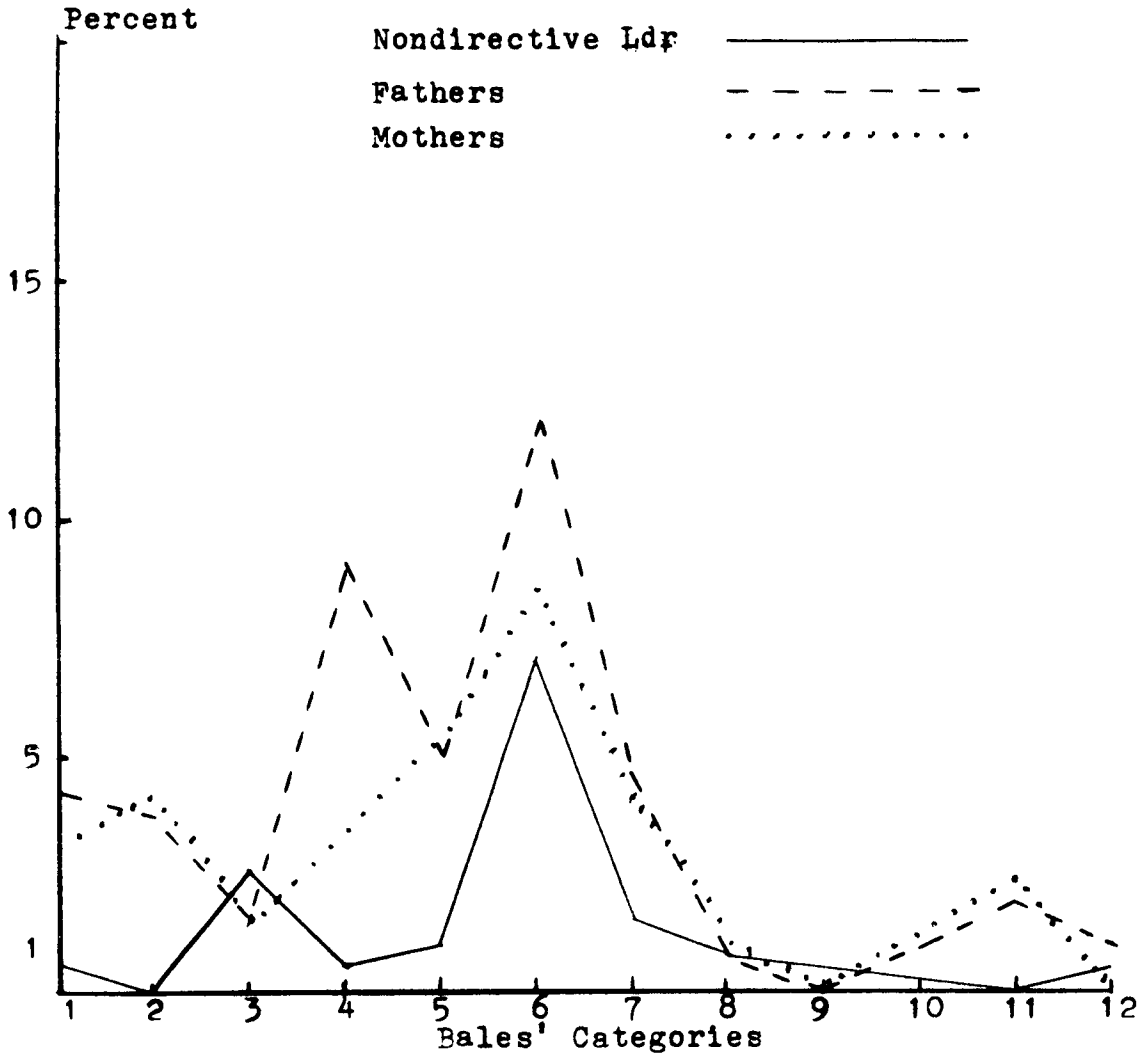

Figure 6. Interaction profiles of fathers, mothers, and leaders in nondirection role. Source: Bales, 1950.

Summary. The data indicate that fathers in the sample provided expressive leadership in addition to being the instrumental leaders of their families. With both types of leadership centered in the father role, it is possible to see these families as undifferentiated with respect to the leadership roles. The father's expressive leadership, however, did not extend to all categories of positive social emotional behavior but was instead centered in acts of solidarity (Category 1) which we have designated as being most supportive of the three. Acts of tension release were more likely to be initiated by mothers or children than by fathers and to be directed toward the group rather than an individual. The level of acts of agreement was lower than might have been expected and this leads to a question concerning the extent to which the father's instrumental leadership found support in the other members of the family.

COMPARISON WITH BALES' DATA

The total effect of the power and support structure can be assessed in relation to the leadership types studied by Bales (1950) as a convenient way of characterizing the families in this study. Bales instructed and trained individuals in how to adopt particular roles for role-laying experiments. The same leader might in one instance adopt a nondirective role and a democratic-directive role in another. In so far as the adopted roles approximate real nondirective or democratic-directive behavior (as defined by Bales, 1950), it is possible to use the types for comparative purposes. In-

teraction profiles of parents in this study can be compared with each type and it can be determined which one provides the closest approximation to either the mothers or the fathers in the study. The data in Table 5 correpond to the interaction profiles developed by Bales to determine rates of activity in each category.

As we have seen, the father emerged as instrumental and expressive leader of the family. Figure 6 represents the profiles of the mothers and fathers together with that of the leader in a nondirective role. It shows that the father's profile departs from that of the nondirective leader more than the mother's. The D statistic (Osgood, Succi, and Tannenbaum, 1957), a measure of the extent of similarity between two profiles, has a value of 20 for the difference between the mother's and the nondirective leader's profiles, and a value of 26 for that between the father's and the nondirective leader's. The significant category records suggestions and directions (4) and as we would expect, the father was more directive than the nondirective leader. He made suggestions and gave directions at a much greater rate than the nondirective leader. The mother also exceeded the nondirective leader in this category but by a smaller margin than the father. Both parents exceeded the nondirective leader in the three instrumental categories (4, 5, 6) and they had a higher level of social emotional activity. Only in terms of agreement (3) do we find the nondirective leader more active.

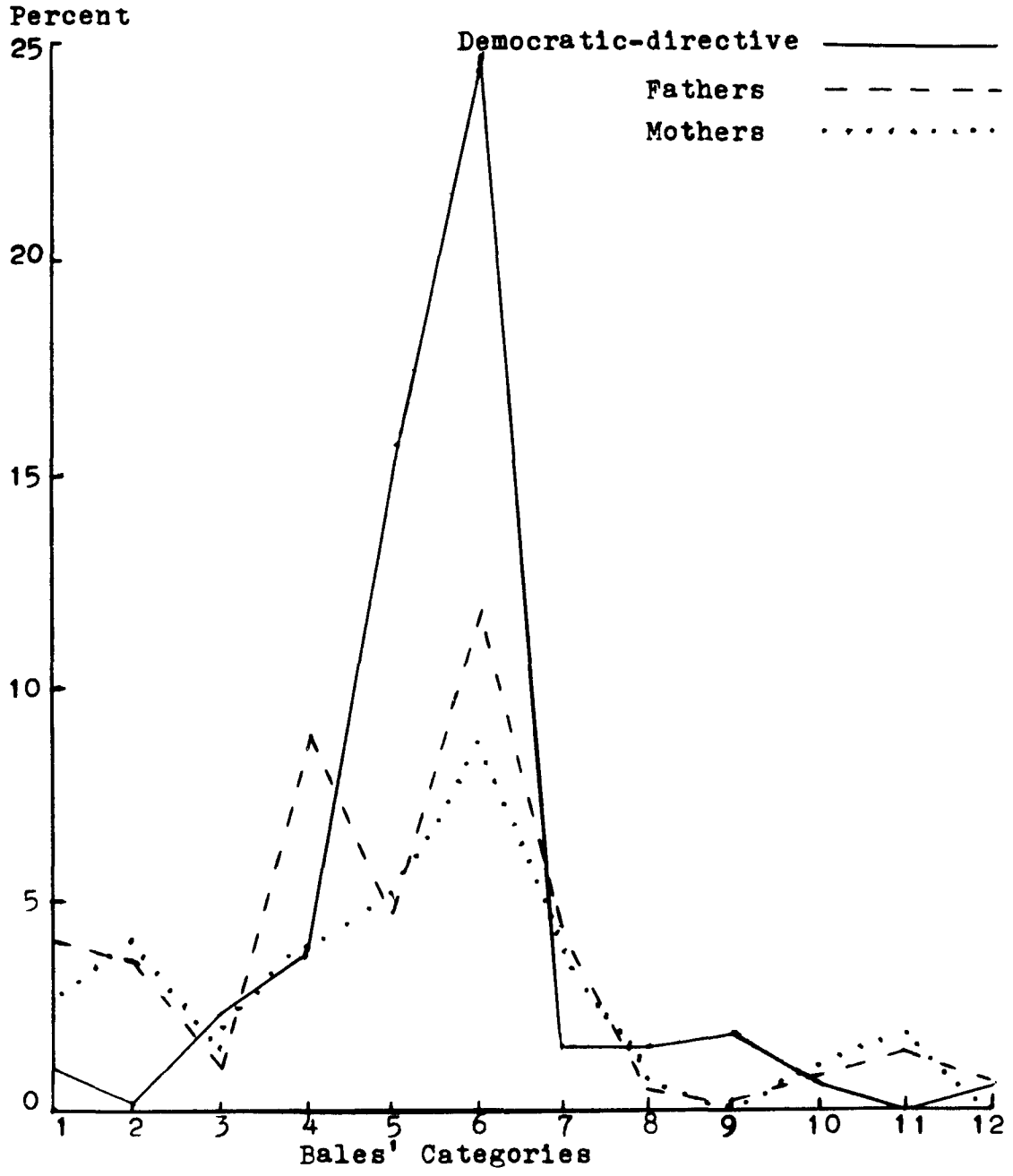

Figure 7. Interaction profiles of Bales' leader in democratic-directive role, fathers, and mothers.

In Figure 7 the parental roles are compared with the leader in a democratic-directive role. The fathers turn out to be the more directive, while the democratic-directive leaders show up more democratic. The D statistic for the difference between the profiles (13.9) indicates that the father's behavior pattern is closer to this leader's pattern than the mother's, since the corresponding figure for the mother is much higher (27.4).

Father compared with leadership types. These comparisons show that the father shares a high rate of activity with both leadership role types in offering orientation and information (Category 6). The father differs from both in the rate at which he makes suggestions and gives directions (Category 4). Both leadership types are more apt to give an opinion than make a suggestion or give directions. Exactly the reverse is true of the father. He gave an opinion at a lower rate than he made suggestions or gave directions. His overall participation, contributing 40% of the total family activity, together with the high rate at which he made suggestions and gave directions, made his role clearly not a nondirective one. In comparing the father with the democratic-directive role, we find that the emphasis in the Bales role may be characterized as democratic-directive, and the father role as democratic-directive. The fact that family members participate at relatively high rates of activity, with the mother contributing almost 31% of total family activity and children 25%, indicates that this is a democratic

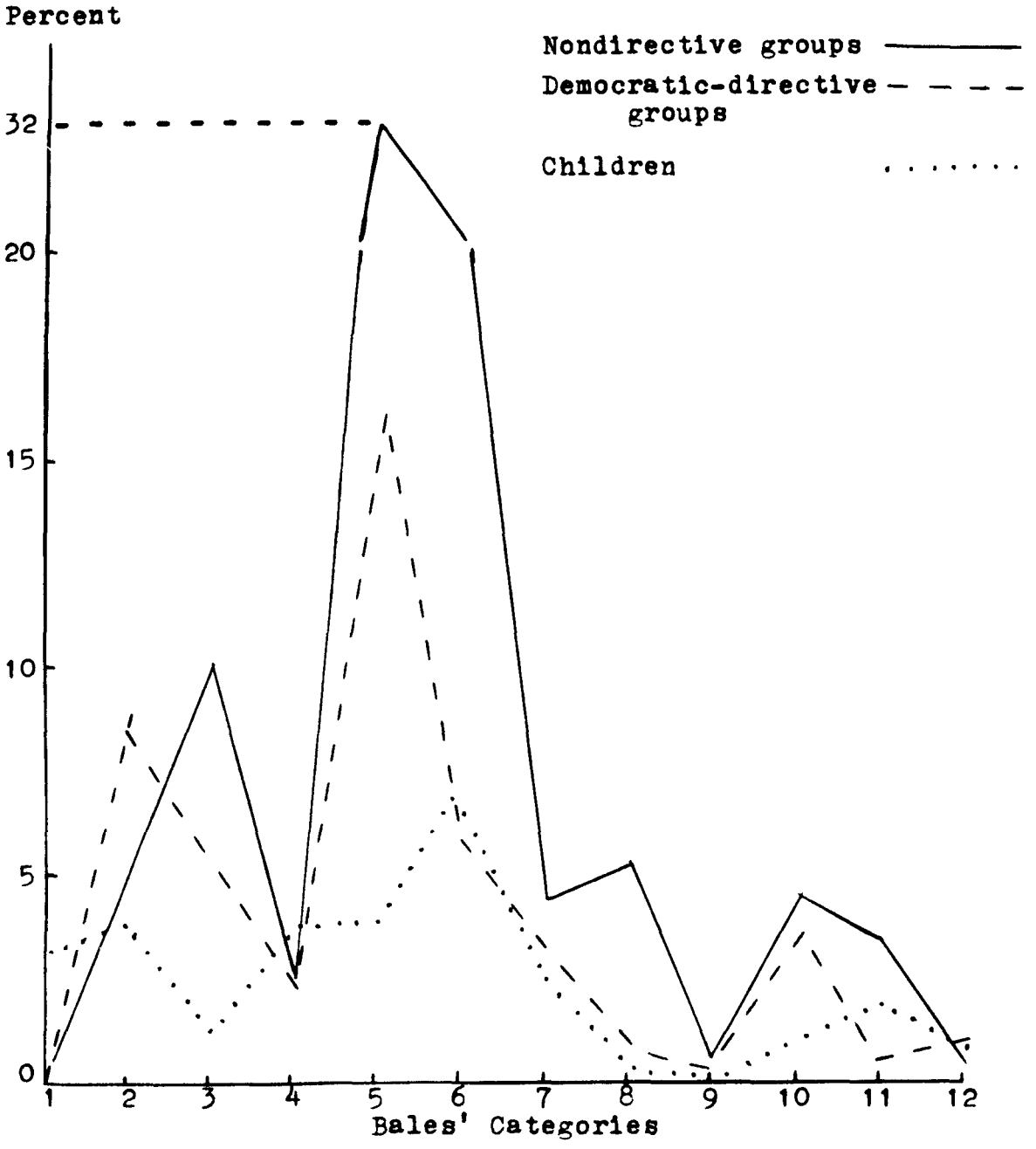

Figure 8. IPA profiles of groups with democratic-directive and nondirective leaders, and of children in this study.

group despite the father's dominant role.

Profiles of followers. In Figure 8 we reproduce the interaction profiles of the followers (rather than the leaders) in the nondirective and democratic-directive groups, together with the profile of the children in this study. The differences in these profiles are probably attributable to the fact that while the Bales groups were of the ad hoc type those in this study were family groups. Activity expressing solidarity (Category 1) is almost nil in the Bales data, where a team spirit may have been difficult to develop, although there were higher rates of activity in the other positive social emotional categories, tension release and agreement. The greatest discrepancies appear in the instrumental categories. Power is low among all three groups (the children in this study having a slight advantage in the rate at which they made suggestions or gave directions) but the differing rates at which opinions were expressed are glaring. Participants in both the Bales leadership type groups expressed opinions at a much higher rate than the children, and the nondirective groups far exceeded the democratic-directive groups in this regard. The nondirective group was also much more active in providing orientation and information, and in this category, the children slightly exceeded the democratic-directive group.

The democratic-directive groups were more apt to state their opinions than were children in the study. The children were more passive on both the social emotional and instru-

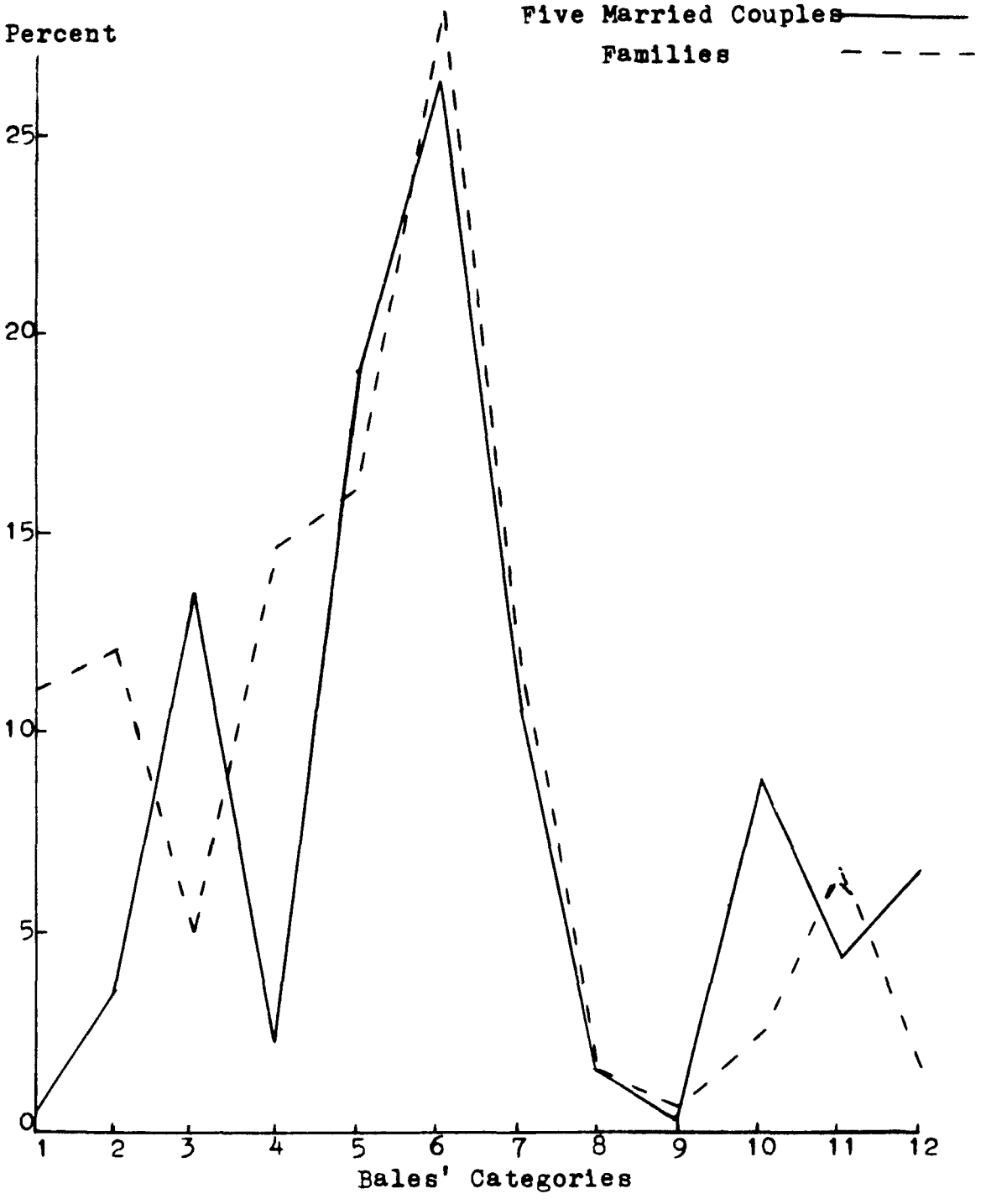

Figure 9. Pooled interaction profiles of five married couples and of families in the experiment.

mental levels than were members of the leadership type groups. As a measure of their response to the leadership of the fathers, the data indicate that they were less involved in the family interaction than were members of the leadership groups in their group activities.

COMPARISON WITH MARRIED COUPLES

The question may be raised about how the parents in this study compare with other couples for whom data are available according to the Bales system. In Figure 9 we present the pooled interaction profiles of five married couples studied by Bales and that of the three family roles in this study. Except for Categories 1 (shows solidarity) and 4 (gives suggestion or directions), for which the couples have low rates in comparison to high activity rates for the families, the pattern of the two pooled profiles is very much the same. There are lesser differences in the other two positive social emotional categories, tension release and agreement. There is more tension release in the family data and less agreement. The couples disagree more, show less tension, and express antagonism at a greater rate than the families. The convergence, except for the rates at which suggestions and directions were given, is quite remarkable. The couples stated opinions at a slightly higher rate than the families, and the rates at which orientation or information was given or asked (Categories 6 and 7) or suggestions or directions solicited, were all almost the same.

Two of the categories had rates which differed from those of the nondirective or democratic-directive groups in the couples as well as the families. These were (1) the giving of opinions and (2) the giving of orientation or information. In each of the leadership type groups participants offered opinions at a higher rate than they gave orientation or information (see Figure 7). The pattern which appeared in the married couples as well as in the families was one which Bales says is unusual. He comments:

> the rate of activity in Category 6 may be in part due to the fact that the couples had to keep track of a somewhat complicated set of answers on three different sheets of paper, but also is probably in part a function of the degree of efficiency in communication that had been built up in past interaction. It was only necessary for the wife to recall to her husband 'how the Jones' basement looked' that time they were there, in order for the implication to be clear to him. The opinion and analysis which might otherwise have been made overt, were apparently in many cases simply understood (1950:24).

The pooled interaction profiles are remarkably similar despite differences in task involvement. The five couples had a task that involved discussion and the families one that entailed playing a game with balls and pushers. The similarity is especially notable in the instrumental categories. The differences may be attributed to the fact that in this study the parental roles were added to the conjugal

Table 10. Mean scores and decile placements of BSR self-ratings by family role (content areas included in the self-esteem index).

Content Area		Fathers	Mothers	Children*
Assertiveness	Mean	10.27	11.03	8.93
	Decile	5	6	3
Likeability	Mean	18.56	20.19	18.89
	Decile	4	5	4
Intelligence	Mean	24.32	26.54	22.53
	Decile	4	5	3
Responsibility	Mean	27.91	30.05	26.08
	Decile	4	6	3
S-E Index		98.4	105.7	90.6

*Decile placements for children were made on the basis of the female portion of the Wisconsin survey.

roles, due to the presence of the child.

PARENTAL FLEXIBILITY AND SELF-ESTEEM

The strongly directive role of fathers in the study and the relatively passive reaction of the children casts doubt on the degree of flexibility with respect to the power and support structure of the families. Tallman has stressed the need for power to be articulated within an atmosphere of support and affection which contributes to the self-esteem of family members in an effective problem solving unit. The fact that family members tended to offer opinions at about the same rate indicates some lack of inhibition but more often than not the exchange of opinions and informations was the prelude to a decision (in the form of a suggestion or specific direction) made by the father. Given this set of circumstances (father dominant families with relatively passive children), the self-esteem of family mambers may be a clue to how flexibile the power and support structures were.

The measure of self-esteem in this study was derived from Borgatta's Self-Rating Scale (BSR), i.e. self-evaluations made by each subject. Subjects rated themselves on four content areas, assertiveness, likeability, intelligence, and responsibility. These self-ratings were summed to yield an index of self-esteem. One additional content area, emotionality, was eliminated from the analysis since it proved to be uncorrelated with the others. The only norms available for comparison with these data deal with individual content areas rather than the overall self-esteem index. Table 10

presents a comparison of the self-ratings by family role with norms derived from a general survey made by Borgatta in Wisconsin (1964:282-283). The survey included a probability sample of 353 males and 417 females (ages unspecified, but presumably all were eighteen or over) drawn from state residents by the Wisconsin Survey Research Center in 1962. Since the norms for the "assertiveness" area contain only two items, and those for the "likeability" area only three, we have included only the appropriate items in the table for purposes of comparison. For this reason, the index score will not be a sum of the item scores included for each content area.

In most categories fathers and children have scores in the lower deciles of the self-rating norms. Mothers are stronger in their self-evaluations. Fathers are in the fifth decile in assertiveness, and in the fourth in each of the other categories. Children are in the third decile with respect to all categories except likeability, and there they are in the fourth decile. These placements indicate that fathers and children in this study compare unfavorably with the Wisconsin self-rating norms. Mothers do not fare quite so badly. The self-esteem indexes summarize the relationships. Mothers easily score the highest, fathers below the mothers, and children the lowest. The norms show that the self-esteem indexes are low in relation to results obtained by Borgatta in his analysis of the Wisconsin survey data (1964).

The extent to which the self-esteem indexes show that power has been articulated within a supportive atmosphere is complicated by the fact that the "children" in this study were adolescents. There is the strong possibility that these adolescents considered the efforts of their parents to control their behavior as at least inappropriate since they had matured beyond the need for either control or support. The flexibility of the power and support structure has to do with the extent to which young people have matured, but also with the extent to which parents recognize their maturity. Parents who recognize the increasing maturity of their children will presumably relax efforts to control them, and will be less inclined to provide support more appropriate for a younger child. Fathers in the sample can not be said to have recognized that their children had indeed matured. They seem to have maintained a high level of instrumental and expressive leadership beyond the needs of their children. The children reacted as might be expected. They adopted a relatively passive role within the experimental situation, and their low self-esteem probably indicates that this behavior is a reflection of the private lives that lie behind public behavior.

SUMMARY

The father was the leader in both instrumental and expressive activity. He made suggestions or gave directions at a rate which was greater than the combined rate of the mother and the child. Opinions were exchanged at about the same rate for all actors. Fathers tended to provide orientation

and information at a greater rate than the other actors. They also led in acts of solidarity, the most supportive of the positive social emotional categories. Mothers and children exceeded fathers in acts of tension release, and although rates did not differ much from one actor to another, there was a relatively low level of activity with respect to acts of agreement (Category 3).

The mother's profile was closer to that of the nondirective leader, the father's was more like the democratic-directive leader, with emphasis on the directive aspects of leadership. We found a remarkably similar pattern in instrumental behavior between the families in this study and five couples studied by Bales. The differences, where they occurred, were probably accountable to the presence of the child, calling forth parental rather than conjugal role behavior, with little noticeable effect on instrumental behavior.

The response of the children in the study to the instrumental and expressive leadership of the father was to adopt a relatively passive behavior pattern. They were less involved in the family problem solving activity than subjects in groups studied by Bales with nondirective or democratic-directive leadership. Both the fathers and the children were found to have low scores on measures of self-esteem and to compare unfavorably with norms provided by Borgatta (1964). The low self-esteem of the children may be attributed to the fact that parents, particularly the fathers, have not exer-

cised much flexibility with respect to power and support as their adolescents matured. That failure led fathers to maintain high levels of control and support when these levels were no longer appropriate and had a depressing effect on the adolescent child's self-esteem.

NOTES TO CHAPTER FOUR

1. When the word structure appears in a discussion of the family we are likely to think of one or more of the structural issues prominent in cross-cultural studies, e.g. the number of persons of each sex allowed to marry in a given society (Cf. Adams, 1971:16), but this is not what we have in mind here. We define family structure in terms of two behavioral dimensions: power and support. High power is indicated by a high rate of acts in which suggestions or directions are given (measured by Bales interaction process analysis); high support by a high rate of acts showing solidarity, raising the other's status, giving help or reward. It is the behavioral structure that interests us rather than normative arrangements such as marital or residential prescriptions.

2. The following items were used to measure control:

If I don't do what is expected of me, she/he is very strict about it (very often, fairly often, sometimes, hardly ever, or never are the response categories).

She/he keeps pushing me to do my best in whatever I do.

She/he expects me to keep my things in good order.

She/he keeps after me to do well in school.

3. This may be due to the fact that adolescent perceptions of their parents may not provide an accurate picture of parental behavior.

4. The principles of measurement were essentially the same. This study differs from the Straus study in making

use of the Bales interaction process analysis while Straus devised his own scoring procedures to measure the variables.

CHAPTER FIVE

SEX, SES, COGNITIVE STYLE, AND ADOLESCENT IS

The relatively low rate at which the adolescent children in this study sought information from objective or interpersonal sources has been found to be associated with high parental power and support in family interaction. Contrary to romantic expectations, the adolescents who played the game with their parents were not more inquisitive nor more involved, in terms of their overall activity. The dominance of fatners in these families is most striking. They were at once the most powerful and most supportive of the actors. They adopted a democratic-directive leadership, and we found reason to emphasize the directive aspects of their leadership. The children responded to this leadership by adopting a passive behavior pattern. A picture emerges of them that has elements of the "irresponsibility" of youth which is said to characterize the youth culture in American society. We have seen reason to attribute to the power and support structure of the family, which subordinates the child to his parents in family problem solving activities, the lessened self-esteem of the child, and in turn, his irresponsible behavior.

It would be impossible to consider all the alternative explanations of the results of this analysis, but two that

must be investigated have to do with the sex of the child and the socioeconomic status of the family. These variables are known to be correlated with a wide range of phenomena (Cf. Duncan, Featherman, and Duncan, 1972). It is only prudent, therefore, to determine if they have influenced these results by being associated with family structure, self-esteem, or the child's information seeking behavior. In addition, the cognitive style variables must be introduced to assess their influence in light of the hypotheses presented above. Findings bearing upon the relationship between the family structure variables, power and support, and the cognitive style variables, including the child's intelligence and self-esteem, will be presented.

SEX

If the child's sex were highly correlated with the principal variables in this study, it would suggest that this confounding was responsible for the relationship among the variables, making them spurious. There is some tendency for girls to receive more parental support ($r = .19$), however, the correlation with power acts received by the child is essentially zero (-.05) and with self-esteem very low (.10). It cannot be said that these variables have been confounded with the sex of the child.

Much the same picture emerges with respect to the relationship between the child's sex and measures of the dependent variable, the child's information search. Here an association with sex appears only with the number of cards taken

by the child (-.21) and it is not significant. It was noted above that status considerations were to some extent set aside in interpersonal activity but were more durable with respect to outside or expert sources. A negative correlation means that the boys took more information cards (because boys were assigned a code of 1 and girls a code of 2). Since taking information cards is a high status activity, this suggests that the boys in the sample were more likely to act contrary to status demands than the girls.

Supporting these correlations, the one-way analysis of variance shows that sex had little or no effect upon the information seeking behavior of the children in the study (measured by the child's IS index), since the F value was not significant (F= .043). There is no reason to suspect that the sex of the child influenced the results of this study. Another variable with possible ramifications however, is socioeconomic status.

SOCIOECONOMIC STATUS

More so than sex, socioeconomic status is a variable with credentials that may lead us to suspect its influence in research such as this involving families. This is especially the case with respect to social class differences in parental power and support, although the record is by no means one-sided. There is strong support in research for the more authoritarian character of working class families in parent-child relations (Baumrind and Allen, 1967; Brody,

1968; McKinley, 1964).[1] But this authority may be more ideological than real due to the autonomatic pattern of family organization likely to be found in working class families. This pattern includes a low level of so-called "parenting" behavior, restricting all types of joint activity (Bott, 1957; Blodd and Wolfe, 1960; Komarovsky, 1964; Nelson, 1966; Rainwater, 1966; Straus, 1967). Gecas found that the middle-class respondents in his sample (adolescents, mostly 16 to 17 years old) tended to perceive their fathers as more controlling and supportive than did the lower-class respondents (Cf. Thomas, et al., 1974). Straus (in Aldous, et al., 1971) attributed the failure of working-class parents to exercise more control over their children than middle-class parents (in his study of social class differences in socialization for problem solving) to the fact that working-class parents lack the personal resources needed to exercise effective control, and it was his opinion, that the higher control exercised by the middle-class reflected not authority but greater parental involvement. That parental levels of involvement are relevant to the question of adolescent irresponsibility is obvious. But is the isolation of the adolescent child from the family problem solving activity a function of the working-class pattern of autonomatic family organization or does greater parental involvement among the middle-class serve to exclude the adolescent child from problem solving activity because it relegates him to a subordinate role? Both forces may operate here, but in either

case, it would be consistent to expect more power acts to be directed to adolescent children by middle-class parents. What we have here are essentially contrasting patterns of behavior, with one implying low levels of parental control (autonomatic) and the other high (involved parents). For the same reason we would expect more parental support among the middle class, and consequently, higher levels of adolescent self-esteem (Rosenberg, 1965; Coopersmith, 1967; Bachman, 1970; Gecas, 1971).

The correlations between the independent variables (power, support, the child's self-esteem) and the family's socioeconomic status (measured by the father's occupation) presented in Table 11 give little support to any of these possibilities. If anything, they show a tendency for parental power to be greater at the lower levels of social class, although the association is not significant. While parental support and adolescent self-esteem are associated somewhat with middle class status, the correlations are too low to conclude that they indicate significant confounding of these variables.

Table 11. Product moment correlations of the family socioeconomic status with selected variables.

VARIABLE	CORRELATION WITH FAMILY SES
POWER	-.10
SUPPORT	.09
CHILD'S SELF-ESTEEM	.12

Table 2 present correlations between measures of the dependent variable (information cards, self-evaluation as an information seeker, interpersonal information search, and the IS index, which combines the first three) and the family socioeconomic status. These correlations are not consistent,

Table 12. Product moment correlations of the family socioeconomic status with measures of the child's information seeking.

MEASURE OF CHILD'S IS	CORRELATION WITH FAMILY SES
INFORMATION CARDS	-.26
SELF-RATING INDEX (BSR-IS)	.27
INTERPERSONAL IS (BALES 7)	.16
IS INDEX	.11

and probably as a result of this, that with the index itself is low. Two of these correlations can be discussed together, since they are almost equal, although in the opposite direction. They show a tendency for lower social class status to be associated with taking a larger number of information cards (which represent an objective source) and a tendency for higher social class status to be associated with a higher self-rating as an information seeker.

These findings can be explained if we assume that the lower class families have an autonomatic organization at least insofar as this involves little joint activity, and that the lower-class father has less prestige because he commands fewer resources (Blood and Wolfe, 1960; Heer, 1963).

Taken together, these factors indicate that the lower-class adolescent has less reason to obey the dictates of status. Thus he is more willing to seek information from an objective (or outside) source in the presence of his less-prestigious father.

If it is also assumed that middle-class parents are more involved than lower-class parents, the higher self-evaluations of middle-class adolescents as information seekers may be a function of the more involved role models provided by their parents. Even though relatively excluded from the problem solving process, this exclusion may not be as important a factor in their self-evaluations as the strong role models they have to follow. This is especially so compared with the lower-class adolescents whose parents are organized autonomatically, a pattern with inherently weaker role models.

This interpretation is consistent with the fact that middle-class adolescents sought more information from their parents than lower class adolescents. It points to a low level of joint activity among lower class family members. But the correlation is not sufficiently strong for us to conclude that there were significant differences between lower- and middle-class families. This is further underlined by the lack of strong association between the overall IS index (of the child) and the family's socioeconomic status. The summary of the analysis of variance for these variables presented in Table 13 shows that they are not confounded.

Table 13. Summary of ANOVA for child's IS index by the family socioeconomic status.

SES	MEAN IS INDEX		S.D.
Low	9.6		5.2
High	9.3		5.2
ETA, for 2 groups	.320	Between SS	.834
Total SS	.812	Within SS	.811
F (1, 30)	.031		

COGNITIVE STYLE

In the theory of information seeking behavior developed in the first chapter a scheme was included which had cognitive style as the intervening variable. It was indicated that information seeking, primarily a cognitive process, is a function of cognitive style, and in turn, that cognitive style is a function of socialization climates defined by the power and support structure of the family. This conception of cognitive style includes two primary elements, conceptual complexity and attentiveness to the environment. Left to this point in the presentation, the description of the measures of these variables, and of another aspect of cognitive style, intelligence, which has obvious implications for all cognitive activity, will be considered here.

Attentiveness to the environment. What is of principal concern is the individual's fluency with respect to the two uncertainty processes described above: observing and encoding information and generating alternative solutions to problems. The first of these, fluency in observing and encoding

information, has been measured in this research by means of the Rotter Scale.[2] As will be shown, this scale is able to distinguish individuals who are more or less attentive to their environment, and the assumption is that this ability is tantamount to observing and encoding information, essentially an empiricist orientation.

The scale was developed by Rotter for use in testing hypotheses drawn from social learning theory. It is based on the idea that individuals vary in the extent to which they feel they have control over the reinforcements that occur relative to their behavior (Cf. Phares, 1968:649).

> Internals tend to feel that they control their own destiny and are the effective agents in determining the occurrence of reinforcements. Externals, however, tend to see forces beyond their control as being the essential factors in determining the occurrence of reinforcements (such forces as fate, chance, powerful others, the complexity or unpredictability of the world, etc.; Phares, ibid.).

Melvin Seeman (1959) has made use of Rotter's theory in his attempts to state the various meanings of the sociological concept of alientation. Rotter developed the I-E Scale (Internal versus External orientation) to measure differences in a generalized expectancy for internal versus external control of events (1966). It consists of 23 I-E items and six filler items. Phares comments

> In general, the I-E concept has shown relationship to a variety of behaviors including those in some learning situations (Bialer, 1961; James, 1957; Phares, 1955), conformity situations (Crowne and Liverant, 1963), and risk-taking (Liverant and Scodel, 1960). It also relates to specific, logically selected tests (Holden, 1958; Simmons, 1963; Cromwell, Rosenthal, Shakow, and Zahn, 1961). Preferences for skill or chance rewards (Rotter and Mulry, 1964), differences in level-of-aspiration behavior (Lefcourt, 1967), tendency to forget failures (Efram, 1963), attempts to control the environment (Gore and Rotter, 1963) and resistance to subtle suggestion (Gore, 1962) have also shown substantial relationships to I-E (Phares, 1968:649-650).

What interests us most about this measure, however, is that I-E has been related to the acquisition of information, information seeking, retention of information, and effectiveness in influencing others.

Seeman followed up his theoretical discussion of alienation with two studies relating I-E to information acquisition and retention among hospitalized tubercular patients and among prisoners in a reformatory. In the former study, made in collaboration with Evans (Seeman and Evans, 1962), it was found that internal TB patients "possessed more objective information concerning their illness, were rated by the hospital staff as having more knowledge of their illness, and were less satisfied with the information they received in the ward" (Cf.

Phares, 1968:650). Seeman found in his study of reformatory prisoners (1963) that information retention was substantially correlated with I-E especially when information is relevant to personal goals. The indication of differential retention was somewhat equivocal, however, due to a learning measure of doubtful adequacy which was used to equate I-E groups for initial learning.

These studies suggest that internals and externals differ both in attentiveness to the environment and in recall of material immediately present in the environment (observing and encoding information). Davis and Phares (1967) also found differences between internals and externals in terms of actively seeking information. In a task which asked subjects to influence the attitude of another person toward the war in Vietnam, the findings were that (1) under ambiguous conditions, the internals sought more information than the externals; (2) under chance conditions, the internals and the externals did not differ in information seeking behavior; and (3) under skill conditions, externals sought significantly less information than internals (Phares, 1968:651).

Phares found support for the hypotnesis that internals are more effective utilizers of information. He saw this as following from the fact that internals are apt to view the correct utilization of information as a road to reinforcement. Externals, on the contrary, do not see their efforts as crucial in the attainment of rewards, and therefore, are not

likely to match internals in their ability to utilize information. These studies support the notion that internals, who are more attentive to their environment and able to utilize information, are more fluent in observing and encoding information than externals, and are therefore to be characterized as "empiricists" in contrast to externals, for whom "idealists" is the more appropriate label.

Findings. Looking first at the relation between the child's Rotter Scale score and the measures of the dependent variable, we find weak support for the notion that internals seek information more than externals. Table 14 shows that,

Table 14. Product moment correlations of the child's Rotter Scale score with measures of the child's information seeking behavior.

MEASURES OF THE CHILD'S IS	CORRELATION WITH ROTTER SCALE
INFORMATION CARDS	-.35
SELF-EVALUATION (BSR-IS)	.04
INTERPERSONAL IS (BALES 7)	-.15
IS INDEX	-.17

especially in terms of the behavioral measures, taking information cards (objective source) and seeking information from parents (Bales Category 7, an interpersonal source), the internals were more active information seekers than externals. It should be noted that a high score on the Rotter Scale is indicative of an external orientation, and a low score of an internal orientation. There was no relationship with the

child's self-evaluation as an information seeker, and that with the overall IS index, although not statistically significant, shows the tendency for high information search to occur among internals. There is weak support, then, for the notion that information seeking behavior is a function of an empiricist orientation, one in which the individual is attentive to his environment, fluent in observing and encoding information.

Table 15. Product moment correlations of the child's Rotter Scale score with selected variables.

VARIABLE	CORRELATION WITH ROTTER SCALE
POWER	-.05
SUPPORT	.26
SELF-ESTEEM OF CHILD	-.13

Correlations of the child's Rotter Scale score with measures of the independent variables (Table 15) vary somewhat, and none is significant. The strongest, that with support, indicates that when parents are most supportive, the child is most likely to have an external orientation. Table 16, which presents the mean Rotter Scale scores for children in each of the four quadrants of the parental behavior taxonomy, shows that there is no interaction between power and support in their influence on the child's orientation. The lowest mean score, and therefore the most internal, appears in the low power, high support (LPHS) quadrant, contrary to the

Table 16. Mean scores and ANOVA of the child's Rotter Scale score by power and support.

	Support		
Power	Low	High	Total
High	9.11	9.13	9.12
Low	8.88	8.57	8.73
Total	8.99	8.85	

Source of Variance	SS	d.f.	F	P
Power	.177	1	.71	n.s.
Support	.008	1	.03	n.s.
Interaction	.012	1	.05	n.s.

hypothesis (#2) which predicted its appearance in the high power, high support (HPHS) quadrant. We suspect that one reason for these results may be that this sample of adolescent children had already passed the socialization period when high power and high support made up an appropriate socialization climate for their age group. The only adequate test of this hypothesis would be one which made use of longitudinal data, following groups of children through the formative stages, beginning with the earliest years and concluding with adolescence. We will have reason to return to this notion, which is relevant to the discussion of the irresponsibility of adolescents.

Conceptual Complexity. The theoretical references we are developing point to attentiveness to the environment as that faculty which enables the individual to ascertain the dimensions of a problem, and on the basis of this information, to generate alternative solutions. The latter faculty, in-

volving the ability to generate alternative solutions, is a function of the individual's conceptual complexity. Schroder and his associates developed the concept (Schroder, Driver, and Streufert, 1967) based on the notion that individuals vary in their information processing abilities and the variance may be measured in terms of integrative complexity.

In this research conceptual complexity is measured by the Barron-Welsh Art Scale.[3] According to Barron, this scale tends to identify individuals who are

> more intensely expressive, expansive, and fluent in speech than the Simple person... The preference for Complexity is clearly associated with originality, artistic expression and excellence of aesthetic judgment... The Complex person's greater flexibility in thought processes is shown by a correlation of -.35 with rated rigidity, defined as "inflexibility of thought and manner; stubborn, pedantic, unbending, firm." (Barron, 1953:166-167).

The findings reported by Barron may be related to his studies of creativity. These studies have led him to state the following hypothesis: That original persons prefer complexity and some degree of apparent imbalance in phenomena. In support of the hypothesis is the fact that preference of complex-assymetrical figures, earning the subject a high score on the Barron-Welsh Art Scale of the Figure Preference Test, is associated with creativity (Barron, 1963:146).

Findings. Among the measures of the dependent variable, that with the strongest correlation with the child's score on the Barron-Welsh Art Scale is the child's score in taking information cards. The correlation indicates that a

Table 17. Product moment correlations of the child's score on the Barron-Welsh Art Scale with selected measures of the child's information seeking.

MEASURES OF THE CHILD'S IS	CORRELATION WITH ART SCALE
INFORMATION CARDS	-.35
SELF-EVALUATION IS (BSR-IS)	.11
INTERPERSONAL IS (BALES 7)	.03
IS INDEX	-.07

simple conceptual structure is associated with taking a large number of cards. More complex individuals tend to rate themselves more highly as information seekers, however. The other measures are too weak to indicate any relationship at all, including the correlation with the IS index (Table 17).

The picture is very much the same in Table 18 with respect to measures of the independent variables. Correlations

Table 18. Product moment correlations of the child's score on the Barron-Welsh Art Scale with selected variables.

VARIABLE	CORRELATION WITH THE ART SCALE
POWER	.05
SUPPORT	.03
SELF-ESTEEM OF CHILD	-.14

with power, support, and self-esteem are too low to indicate any relationships. The strongest, with self-esteem, indicates

a slight tendency of simple conceptual structures to be related to high self-esteem, which is unexpected. We note in Table 19 that our first hypothesis, which predicted that the most complex subjects would be found in the high power, high support quadrant, in terms of the family socialization climate, is supported. However, the two-way analysis of variance, with

Table 19. Mean scores and ANOVA of the child's complexity (Barron-Welsh Art Scale) by power and support.

	Support		
Power	Low	High	Total
High	35.88	37.25	36.56
Low	33.63	35.88	34.75
Total	34.75	36.56	

Source of Variance	SS	d.f.	F	P
Power	3.36	1	1.34	n.s.
Support	3.29	1	1.31	n.s.
Interaction	.19	1	.07	n.s.

the family socialization variables as independent and the child's complexity scores as dependent variables yields no significant F values. It may be questioned, however, whether the selection of items from the Figure Preference Test (the first twenty-four figures in the Barron-Welsh Art Scale) was adequate as a means of identifying complex or simple subjects.

Summary. In the theoretical scheme presented above attentiveness to the environment was equivalent to ability to observe and encode information from the environment. This

variable has been measured by the Rotter Scale which identifies individuals with an internal orientation to locus of control. Such individuals have been shown to score highly in attentiveness to the environment, information acquisition and utilization. The other principal cognitive style variable was conceptual complexity and it was measured by the Barron-Welsh Art Scale. Taken together, the two measures provide the means for differentiating subjects with respect to the two uncertainty processes: fluency in observing and encoding information (empiricist versus idealist dimension) and fluency in generating alternative solutions (complex versus simple dimension).

We have presented findings with respect to these two cognitive style variables bearing on two important relationships: (1) that of cognitive style with measures of the dependent variable, the child's information search; and (2) that of cognitive style with the independent variables, power, support, and self-esteem. We were also interested in the extent to which the family structure variables, power and support, interacted in their influence on cognitive style.

We found a slight tendency for empiricists (internals on the Rotter Scale) to seek information at a higher rate than idealists (externals). There was, however, no significant relationship between complex conceptual structure and the child's information search.

Aside from some tendency for high support to be associ-

ated with an idealist (external) orientation, there was no significant relationship between the family structure variables and the child's Rotter Scale score. Virtually the same picture emerged with respect to conceptual structure: no significant correlations with power or support.

There was no evidence that power and support, or the interaction of these variables, was a primary determinant of the child's cognitive style. Neither an empiricist orientation nor conceptual complexity resulted from interaction of these variables.

Finally, no evidence appeared that either cognitive style variable was related to the child's self-esteem.

Taken together these findings show that there is no support in the data for the notion that cognitive style is a function of family structure.

Intelligence. Another aspect of cognitive style not included as a variable in the hypotheses is intelligence. Information search involves cognitive processes and there is always the possibility that individuals vary in informa-seeking behavior as they vary in intelligence. for this reason a brief test of intelligence was included in the study, the Hartingon Pathways Test.[4]

At this point, we will be concerned only with the relation between the child's intelligence, information search, and the structure of the family. The first thing to note in Table 20 is that the child's score on the Pathways Test is

Table 20. Product moment correlations of child's intelligence with measures of the child's information seeking.

MEASURES OF CHILD's IS	CORRELATION WITH INTELLIGENCE	
INFORMATION CARDS	.20	
SELF-EVALUATION (BSR-IS)	.10	
INTERPERSONAL IS (BALES 7)	.33	P= .05
IS INDEX	.28	P= .10

that the child's intelligence, indicated by his score on the Pathways Test, is more highly correlated with the measures of information search (except on the number of information cards taken) than either of the principal cognitive style variables. The correlation with the overall IS index is stronger than was true of either of the others, although it is not statistically significant beyond the .10 level of significance. The strong association with the Bales Category 7 indicates that more intelligent children were more likely to seek information from their parents than less intelligent children.

Table 21. Product moment correlations of child's intelligence with selected variables.

VARIABLES	CORRELATION WITH INTELLIGENCE	
POWER	-.23	
SUPPORT	-.27	P= .10
CHILD's SELF-ESTEEM	.24	

The correlations in Table 21 are interesting both for their direction and their strength. They indicate that more

intelligent children experienced lower levels of power and support from parents during the experiment. There was also an association between intelligence and self-esteem, which was expected. Perhaps it should be pointed out that the Pathways Test is a performance measure (see Note 4), a test of mental agility. But the measure of self-esteem used in this research includes a self-rating by the subject as to his or her intelligence. Performance and self-rating then tend to correlate positively.

Table 22. Mean child's intelligence scores (Partington Pathways Test) by power and support.

	Support		
Power	Low	High	Total
High	5.33	4.13	4.73
Low	5.75	5.14	5.44
Total	5.54	4.63	

The data in Table 22 show that high intelligence is associated with low power and low support (LPLS), while we would have hypothesized that it appear in the opposite (diagonal) quadrant. This is further support for the belief that such hypotheses can be tested adquately only with longitudinal data. By the time the child reaches adolescence, the family of the intelligent child has achieved a flexible power and support structure, but this does not mean that this was true during the early development of the child. The family power and support structure very likely varies during

the stages of his development. We will have occasion to return to this notion below.

SELF-ESTEEM

Self-esteem, the self-evaluative component of the self, can not be overlooked in a study of adolescent behavior because the adolescent is more or less preoccupied with himself and his identities. If we consider only the content areas with which we define self-esteem in this study, the assumption is hardly unwarranted that an adolescent who defines himself as assertive, likeable, intelligent, and responsible will behave differently from one who sees himself as passive, unlikeable, dull, and irresponsible. That these differences in self-evaluation are related to differences in adolescent information seeking behavior is what specifically concerns us here. We have measured self-esteem by means of the Borgatta Scale, a behavioral self-rating form (BSR) which requires subjects to rate themselves on the content areas mentioned above.[5] We have had occasion to compare scores of the children in this study with norms provided by Borgatta's Wisconsin Survey (1964) and found that children in this study tended to rate themselves lower than the Borgatta norms for women.

Table 23. Product moment correlations of child's self-esteem with measures of the child's information seeking.

MEASURES OF CHILD'S IS	CORRELATION WITH SELF-ESTEEM
INFORMATION CARDS	.22
SELF-EVALUATION (BSR-IS)	.54 P= .01
INTERPERSONAL IS (BALES 7)	.47 P= .01
IS INDEX	.57 P= .01

Findings. The discussion of the dependent variable in Chapter Three included a presentation of the correlations of measures of the child's information seeking behavior with the child's self-esteem index. The data, reproduced in Table 23, show a strong association between the child's self-esteem and two of the three components of the child's IS index. Only the correlation with the number of information cards taken by the child was not significant. That with the IS index is the strongest of all. There was, however, no association between self-esteem and the independent variables, power and support (Table 24), although an examination of the means in Table 25 shows some effect from support, with low support being associated with high self-esteem.

Table 24. Product moment correlations of child's self-esteem with selected variables.

VARIABLE	CORRELATION WITH SELF-ESTEEM
POWER	.08
SUPPORT	-.10

Table 25. Mean and ANOVA of child's self-esteem by power and support.

	Support		
Power	Low	High	Total
High	91.0	89.8	90.4
Low	94.0	83.9	88.9
Total	92.5	87.0	

Source of Variance	SS	d.f.	F	P
Power	3.75	1	.09	n.s.
Support	38.8	1	.96	n.s.
Interaction	15.4	1	.38	n.s.

Thus the third hypothesis of the study, that children in the HPHS (high power, high support) quadrant would score highest on measures of self-esteem was not supported.

SUMMARY

We have seen no evidence that would lead us to conclude that the major variables in this research have been confounded with either the sex of the child or the family's socioeconomic status. The principal finding with respect to cognitive style was that it is not possible to say on the basis of this study that cognitive style is a function of the family power and support structure. We had reason to question the adequacy of the selection of items from the Figure Preference Test (Barron-Welsh Art Scale) in differentiating simple from complex conceptual structures, and this may have influenced the results. Cognitive style was not related to the child's self-esteem. Finally, the two variables with the highest association with the child's information search were intelligence and self-esteem, and of the two, self-esteem was easily the most significant.

NOTES TO CHAPTER FIVE

1. I am dependent on Straus (in Aldous, et al., 1971) for much of this discussion.

2. We have measured internal versus external control by a selection of six items from the Rotter Scale. An item analysis using biserial item correlations showed that the items with the highest correlations with the overall Rotter Scale dealt with luck. The six items chosen were selected from a five-fold categorization of items in the scale. The five categories were luck, powerlessness, fatalism, material or achievement reward, and social reward. The items selected, then, included that item which had the highest item-total correlation in each category plus an additional item from the powerlessness group which had a substantially higher correlation than any other item. The items made up Part IV of the questionnaire administered to subjects before they participated in the game. Appendix "A" presents the questionnaire. Items "B" through "F" were reflected so that scores indicated correctly the subject's orientation.

3. The Barron-Welsh Art Scale is based on responses to a series of line drawings in black ink. Subjects judge the drawings by indicating which figures they like and which they dislike. The original test, developed by George S. Welsh (1949), consisted of 400 drawings. The Art Scale is a selection of 62 drawings from the original test. It has

been effective in discriminating between artists and non-artists (Barron and Welsh, 1952). The range of data obtained in this study, from a variety of instruments, made it imperative that each test be reduced to its most essential elements. It was therefore decided to limit the Art Scale for this research to the 24 items, 11 of which were dislike (DL) items. It was felt that, together with items from the Rotter Scale, this selection would identify individuals with the varying cognitive styles required by the study. As a test of the individual's fluency in observing and encoding information from the environment, the Rotter Scale can be considered a measure of dimensional complexity. The Barron-Welsh Art Scale, in contrast, can be considered a measure of integrative complexity, or individual capacity for ordering (or re-ordering) the accumulation of facts obtained by the individual who is attentive to his environment. It represents, in other words, fluency in generating alternative solutions to problems. The drawings included may be examined in Appendix "B."

4. The Pathways Test was given in two forms. First, the subject was required to draw a line connecting numbers from 1 to 25 in order, beginning with number 1, and with the numbers arranged in random order. Next, a pattern using both numbers and letters was presented and the subject had to draw a line connecting number 1 to letter A, letter A to number 2, and number 2 to letter B, and so on. Subjects were timed on

each portion of the test and the time in seconds became the raw score for conversion to an index of mental ability or intelligence. This conversion was accomplished by calculating sten scores on the basis of the raw scores and the Pathway sten scores became the index of intelligence used in the study. After converting the raw scores, the higher the sten scores, the greater the intelligence of the subject. For the calculation of sten scores Cf. Canfield, 1951:295-297.

CHAPTER SIX

TESTS OF THE HYPOTHESIZED MULTIVARIATE THEORY

They hpotheses tested in this research are concerned with the relation between the family power and support structure and self-esteem to the child's information seeking behavior, and with the cognitive style variables, conceptual complexity and attentiveness to the environment, as intervening variables. Of the cognitive style variables, only attentiveness to the environment, measured by the Rotter Scale, has given evidence of being related to the child's IS index, and we have not established that the child's cognitive style is a function of the family power and support structure as hypothesized.

The discussion turns now to the hypotheses which have to do with the combined effect of the family power and support structure, self-esteem, and cognitive style on the child's information seeking behavior. This will include, first, a presentation of the results of a series of three-way analyses of variance. In each case, the family power and support structure is combined with a third variable to determine the effect on the child's IS index. Secondly, multiple correlation analysis will enable us to deal with more than three independent variables (e.g. self-esteem, conceptual complexity, attentiveness to the environment, and intelligence) all at once. The size of the sample precludes analysis of variance beyond the three-way design.

Table 26. Means and ANOVA for child's IS index by power and support.

	Support		
Power	Low	High	Total
High	9.9 (N=9)	8.3 (N=8)	9.1
Low	12.3*(N=8)	7.1 (N=7)	9.7
Total	11.1	7.7	

Source of Variance	SS	d.f.	F	P
Power	.37	1	.13	n.s.
Support	11.49	1	4.02	.05
Interaction	3.10	1	1.08	n.s.

*A multiple range test (Duncan, 1957) showed a difference significant at the .01 level between the LPLS quadrant and both the HPHS AND LPHS quadrants.

FAMILY STRUCTURE AND THE CHILD'S INFORMATION SEARCH

Actually, the basic relationship of the analysis is that of the family power and support structure to the child's IS index. Therefore, the results of a two-way analysis of variance testing the effect of different levels of power and support on the child's IS index are presented in Table 26. This data also provides a base-line from which to assess the results of the three-way analyses as each of the other variables is added to the design. The data in Table 26 enables us to test the fourth hypothesis of the study: that children in HPHS families will seek more information than in non-HPHS families.

For reasons that will become apparent, the discussion will emphasize an examination of the means upon which the analysis of variance is based. Even though statistical significance is not found in the analysis of variance, the distribution of means is important to the analysis. Therefore the

mean scores for the child's IS index score are presented in Table 26 along with the analysis of variance. Noteworthy is the fact that the highest mean IS index score is found in the LPLS quadrant (low power, low support). The main effect means show that the higher IS index scores are associated with low support. Differences in support levels produce corresponding differences in information search, and therefore support is a significant (at the .05 level) source of the variance.

We would have expected, however, to find that high information search was associated with high support rather than low. The socialization modalities summarized by Straus (1964) associate a traditional (authoritarian) or neglecting atmosphere with low support (Cf. Schaefer, 1959; Roe, 1957; Williams, 1958; Duvall, 1946). Neither modality is conducive to high information seeking behavior.

The hypothesis, which was not supported, called for the highest IS index scores to occur in the HPHS quadrant. But not only was this not the case, a Duncan multiple range test shows a highly significant (at the .01 level) difference in the LPLS mean and that of both the HPHS and LPHS quadrants. What the hypothesis did not take into consideration, however, is the possibility that the family power and support structure may change over time. The issue involves whether the socialization modalities mentioned above are applicable when the child reaches adolescence. If not, it would be misleading

Table 27. Mean information search scores by power, support, and attentiveness to the environment (Rotter Scale).

	Attentiveness to the Environment			
	Empiricist Orientation		Idealist Orientation	
	Support		Support	
Power	Low	High	Low	High
High	8.2 (N=6)	10.0 (N=4)	**13.3 (N=3)	6.5 (N=4)
Low	*14.2 (N=6)	*7.2 (N=5)	6.5 (N=2)	7.0 (N=2)

Source of Variance	SS	d.f.	F	P
Support (A)	85.1	1	3.83	.05
Power (B)	4.3	1	.19	n.s.
Attentiveness (C)	8.2	1	.37	n.s.
A X B	26.0	1	1.17	n.s.
A X C	5.6	1	.25	n.s.
B X C	40.3	1	1.81	n.s.
A X B X C	110.0	1	4.96	.05
ERROR	532.6	24		

* The difference between the LPLS AND LPHS means is significant at the .05 level (Duncan multiple-range test).

** The difference between the HPLS mean and the other three means on the "idealist" side is significant at the .05 level (Duncan multiple-range test).

to interpret adolescent behavior in terms of socialization modalities which describe pre-adolescent socialization climates, except when the modalities are treated as antecedent conditions. Without access to the pre-adolescent socialization climates experienced by subjects in the study, the insights of developmental models can not be applied to the data.

FAMILY STRUCTURE, COGNITIVE STYLE, & IS

The two primary cognitive style variables, attentiveness to the environment and conceptual complexity, were shown in the previous chapter to be unrelated to the family power and support structure or the child's self-esteem. Only attentiveness to the environment, measured by the Rotter Scale, had some relationship to the child's IS index. What we want to determine is whether the relationship between the family structure and the child's IS index is different when the child has an empiricist rather than an idealist orientation to his environment, or when the child has complex rather than simple conceptual structure.

Empiricist versus idealist orientation. The empiricist, in terms of this research, is more attentive to his environment, and has greater ability to observe and encode information from his environment than the idealist. Therefore the three-way analysis of variance enables us to see the relation between the family power and support structure and the child's IS index within two groups of subjects: adolescents with an empiricist orientation, who are attentive to their environment,

and those with an idealist orientation, who are not. The means presented in Table 27 show the comparison of the two groups.

Cross-sectional data give us a snapshot view of structures and behavior within them at a given point in time. If the empiricist side of the table is studied first, it is apparent that power and support interact symmetrically (Kerlinger, 1973) with respect to the empiricist child's information seeking behavior, although the interaction is not statistically significant. At the low power level, low support subjects have the highest IS index scores, but when low power is combined with high support, there is a drastic drop in the index. At the high power level, the opposite change occurs. As support changes from low to high, rather than a decrease in the IS index, there is a modest increase. Essentially the same kind of changes occur in terms of levels of support. At low support levels, when power drops the IS index rises; but at high support levels, a drop in power leads to a severe decline in the IS index.

Of particular interest here is the drastic change at the low power level between the IS index scores for the low and high support quadrants (this refers only to the empiricist data). It was argued above that as the child develops into adolescence the family power and support structure must become more flexible. Parents must relinquish some of their prerogatives with respect to the control of their children, permitting children to have a responsible role in

family problem solving activities. That children with an empiricist orientation have the highest IS index scores when power and support are low, presumably because their parents have become more flexible and relinquished some of these prerogatives, tends to support this interpretation. The data point to consistency as most important in parental behavior, however, a consistent performance with respect to power and support. High power is best exercised within a context of high support. Low power operates best within an emotionally neutral atmosphere of low support. Any other combination of power and support is inconsistent and has an inhibiting effect on the empiricist adolescent's information seeking behavior. It must be stressed that these statements are rather tentative. However, remaining with the empiricist data, it should be noted that the difference between the LPLS mean and that for the LPHS quadrant is significant at the .05 level.

The picture on the idealist side is entirely different. Here what interaction there is between power and support (and it is not significant) is asymmetrical (Kerlinger, 1973). Only the high power, low support quadrant is significantly different from the other three scores in the idealist side and produces a substantial IS index score. In line with the above reasoning, the data indicate that since the idealist is not attentive to the environment, he requires parental suggestions (high power, that is) to stimulate his initiative,

Table 28. Mean information search scores by power, support, and conceptual complexity (Barron-Welsh Art Scale).

	Conceptual Complexity			
	Simple Structure		Complex Structure	
	Support		Support	
Power	Low	High	Low	High
High	10.8 (N=5)	7.3 (N=3)	6.3 (N=3)	8.8 (N=5)
Low	12.2 (N=5)	6.3 (N=4)	12.3 (N=3)	8.3 (N=3)

Source of Variance	SS	d.f.	F	P
Support (A)	67.6	1	2.56	n.s.
Power (B)	9.1	1	.34	n.s.
Complexity (C)	.5	1	.19	n.s.
A X B	35.0	1	1.33	n.s.
A X C	28.3	1	1.07	n.s.
B X C	12.9	1	.49	n.s.
A X B X C	7.3	1	.28	n.s.
ERROR	607.8	23		

and they must be given within an emotionally neutral atmosphere.(low support). The idealist seems to flourish best when there is inconsistency with respect to parental power and support. He may actually be a dull fellow whose behavior reflects the initiative of others, in this case his parents. Charging the atmosphere emotionally (high support) is too demanding for him and inhibits his activity. Without suggestions from others (low power) he has little incentive to take the initiative and his information seeking behavior is minimal. Once again, the data can only be said to point in the direction of these rather tentative remarks.

Table 27 shows that these relationships lead to a significant interaction between the family structure and attentiveness to the environment as they effect the child's IS index. The summary of the analysis of variance also points to parental support as having some significance in its influence on the child's IS index, in this context.

Conceptual Complexity. The question which must be answered here is how the relationship between the family structure and the child's IS index varies when subjects have simple rather than complex conceptual structures. The difference, if any, may be found in the means presented in Table 28.

If we compare these means with those presented in Table 26, it is immediately apparent that controlling for conceptual complexity had little effect. It is difficult to understand these findings. According to Sieber and Lanzetta, per-

sons with simple conceptual structures experience less uncertainty than persons with complex structures. The complex person tends to acquire and process more information than the simple person (1964:638). These findings underline the reasons why the adequacy of the measure of complexity used in this study must be called in question. Twenty-four items out of a scale of 62 items may not have been able to distinguish simple and complex types. In addition, there are significant differences between the measures used by Sieber and Lanzetta, especially the Sentence Completion Test, and the Barron-Welsh Art Scale. It may be that the Art Scale measures integrative complexity alone, one's capacity to integrate divergent facts or principles, and this faculty comes into play after information is acquired. In that case, it would not be related to the search for information but rather to its use. The summary of the analysis of variance in Table 28 shows no significant interaction between the family power and support structure and conceptual complexity as they effect the child's IS index.

INTELLIGENCE

The foregoing discussion of the two primary cognitive style variables shows that only attentiveness to the environment interacts with the family power and support structure to influence the child's IS index. Another aspect of cognitive style which must be considered is intelligence. It has been

Table 29. Mean information search scores by power, support, and intelligence (Partington Pathways Test).

	Intelligence			
	Low		High	
	Support		Support	
Power	Low	High	Low	High
High	8.5 N=4	8.8 N=6	11.0 N=5	6.5 N=2
Low	6.5 N=2	7.8 N=4	14.2* N=6	6.3 N=5

Source of Variance	SS	d.f.	F	P
Support (A)	85.0	1	3.49	.05
Power (B)	4.3	1	.17	n.s.
Intelligence (C)	18.2	1	.75	n.s.
A X B	23.5	1	.96	n.s.
A X C	71.2	1	2.92	n.s.
B X C	17.0	1	.69	n.s.
A X B X C	7.6	1	.31	n.s.
ERROR	585.1	24		

*There was a significant difference at the .05 level between the high intelligence LPLS mean and the HPHS and LPHS means on the high intelligence side (Duncan multiple-range test).

measured by the Partington Pathways Test described in the previous chapter. The main concern is to determine whether the relationship between the family structure and the child's IS index varies with the child's intelligence. The means and the three-way analysis of variance appear in Table 29.

The striking aspect of the means is the strong effect of parental support among high intelligence subjects. There was a tendency for high intelligence to respond to low support with greater information seeking. The difference between the LPLS mean and that of both the HPHS and LPHS quadrants was significant (at the .05 level). That between the HPLS mean and the two high support means was not. There are indications, then, that subjects in the high intelligence group in an emotionally **neutral** (low support) atmosphere were significantly different in their information seeking behavior than subjects in the high support quadrants. These subjects had mean IS index scores more than double those of their counterparts in the more emotionally charged (high support) atmosphere, even in terms of positive social emotional behavior.

The low intelligence group did not vary as sharply from one support level to another. There was a tendency for low intelligence **subjects** under high support conditions to have higher IS index scores than those in the low support conditions, which is the opposite of the high intelligence group. None of the differences in the low intelligence means were significant, however. The tentative indication is that the low intelligence requires parental suggestion and encourage-

Table 30. Mean information search scores by power, support, and self-esteem (Borgatta Self-Rating Scale).

	Self-Esteem			
	Low		High	
	Support		Support	
Power	Low	High	Low	High
High	9.3 N=3	5.7 N=3	9.8 N=5	9.8 N=5
Low	7.8* N=4	6.6 N=5	16.8* N=4	8.5 N=2

Source of Variance	SS	d.f.	F	P
Support (A)	79.5	1	3.70	.05
Power (B)	5.2	1	.24	n.s.
Self-Esteem (C)	131.2	1	6.11	.025
A X B	15.6	1	.72	n.s.
A X C	5.2	1	.24	n.s.
B X C	23.4	1	1.09	n.s.
A X B X C	51.1	1	2.38	.10
ERROR	494.1	23		

*The difference between the Low Self-esteem LPLS mean and the high Self-esteem LPLS mean is significant at the .01 level (Duncan Multiple-range test).

ment. Low intelligence subjects had the lowest IS index scores when both suggestions and encouragement were minimal. Consistency with respect to power and support were not apparently crucial for either the high or the low intelligence group. Perhaps the most important factor is that it is again in the low power, low support quadrant of the high intelligence group (as was true of the empiricist group with respect to attentiveness to the environment) that the highest IS index score appears, although the more intelligent adolescents seem to accept parental suggestions if they are offered in a relatively neutral emotional climate (low support combined with high power) without much reduction in their IS index scores.

SELF-ESTEEM

Self-esteem is included as an independent variable in the research design, a primary influence on the information seeking behavior of the child. We have defined self-esteem in terms of four content areas of the behavioral self-rating scale developed by Borgatta: assertiveness, likeability, intelligence, and responsibility. Each subject rated himself in these areas and an index was established on the basis of his self-ratings. The question of interest here is how the relation of the family power and support structure to the child's IS index varies with the self-ratings of subjects. The means and three-way analysis of variance are presented in Table 30.

These means show the effect of controlling for self-esteem. If we compare the low power, low support quadrant with that in Table 26 (where the means for the two-way analysis of variance are given) we find that under conditions of low self-esteem there is a sharp drop in the child's IS index while under conditions of high self-esteem there is a significant increase. The difference in these means is significant at the .01 level. In fact, a comparison of the power and support quadrants for the two self-esteem conditions shows that the child's IS index is higher whenever self-esteem is higher. Self-esteem has a pervasive influence, in other words, at all levels of the power and support property space.

A combination of low power and low support might mean that the family atmosphere is withdrawn, with the parents having more or less abdicated their responsibilities as parents. Such an atmosphere would not be conducive to the development of self-esteem in children. It may mean something entirely different, however. As we have pointed out, Tallman argued that the effective problem solving family would be one that decentralized over its life cycle. When children reach the age when they can take responsibility for themselves, parental prerogatives must be relinquished (1970:100). At that point, however, and it is not inconceivable that some adolescents in the sample had arrived there, it is to be expected that parental power and support would diminish. Without longitudinal data which follow the same subjects through

the life cycle there can be no conclusive evidence for Tallman's theory, but it is plausible to suppose that subjects in the low-power, low-support quadrant who exhibit high self-esteem do so because their socialization has succeeded in making them responsible for themselves. These subjects also score the highest on the IS index. Therefore, the fifth hypothesis of the study: that the combination of an HPHS socializing climate and high self-esteem is associated with high information search was not supported. We have already seen that the third hypotnesis relating high self-esteem to an HPHS socializing climate was not supported. It should be pointed out, however, that part of the fifth hypothesis was supported. High self-esteem was associated with high information search.

FAMILY STRUCTURE, SELF-ESTEEM, COGNITIVE STYLE AND INFORMATION SEEKING

What has interested us most in the data reviewed above was the extent to which the relationship between the family structure and the child's IS index was effected by a control on selected variables. The statistical measure of the interaction among these variables was the F-ratio from the analysis of variance of the three-way interaction in each case. A summary of the results appears in Table 31.

The reader should be aware from the above discussion that the three-way analysis of variance breaks the already small

Table 31. F-ratios for three-way analyses of variance with power and support, cognitive style, self-esteem, and the child's information seeking.

VARIABLE INTERACTING WITH POWER AND SUPPORT IN EFFECTING THE CHILD'S IS INDEX	F-RATIO OF THE INTERACTION EFFECT
ATTENTIVENESS TO THE ENVIRONMENT	4.96 P= .05
CONCEPTUAL COMPLEXITY	.28 n.s.
INTELLIGENCE	.31 n.s.
SELF-ESTEEM	2.38 P= .10

sample into smaller groups with as few as two cases in some of the cells. It is not necessary to emphasize therefore that conclusions made on the basis of these results are bound to be tentative. What the F-ratios presented above indicate is that in only one instance, attentiveness to the environment, and less so with respect to self-esteem, does the presence of the additional variable have a significant effect on the child's information seeking behavior.

The F-ratio places a statistical value on that significance but it does not tell us the nature of the effect made by the additional variable. In this study, for example, it may become apparent that it does make a difference to the child with an empiricist orientation what kind of power and support structure he finds himself in. Our interpretation of the means in Table 27 led to the conclusion that consistency was most important to the empiricist child. That is,

he seems to require either high power and high support or low power and low support. The optimum conditions for the idealist child are even more limited: high power and low support, otherwise poor performance. This is also a consideration where self-esteem is concerned, but the means in Table 30 show that the child with high self-esteem has a higher IS index compared with the child with low self-esteem in every combination of parental power and support. If this is turned around and looked at from the perspective of the combination of power and support, it is obvious that the child with high self-esteem flourishes in a low power, low support atmosphere, but his counterpart with low self-esteem flounders in that atmosphere. The difference between the two LPLS means is significant at the .01 level.

In no instance encountered thus far have we seen that the interaction of power and support with respect to the child's IS index has been significant. Neither the presence of the variable self-esteem nor that of the variable attentiveness to the environment produces interaction that raises the family structure variables to statistical significance. It is doubtful therefore that there is support in this study for the sixth hypothesis: <u>that the combination of an HPHS socializing climate, high self-esteem, a complex conceptual structure, and an empiricist orientation in respect to attentiveness to the environment maximizes information search.</u> High IS index scores have not been associated in this research

with an HPHS socializing climate, and in the last chapter it was shown that high self-esteem and an empiricist orientation to the environment were not associated with an HPHS socializing climate either. Only conceptual complexity was associated with high power and high support. Even if an analysis of varience testing the relation of all five of these variables to the child's IS index were possible, it is doubtful that the results would support the hypothesis in its specification of the HPHS socializing climate as crucial. The sample is too small to accommodate such an analysis. But if the question of the relation of family structure to the child's information seeking behavior is left aside for the moment, it is possible to concentrate on the relation of self-esteem and cognitive style to the child's behavior.

This can be investigated by means of multiple correlation analysis. Let us say that we are interested in the combined effect of the child's conceptual complexity and his attentiveness to the environment on his information seeking behavior. A multiple correlation shows that the combined effect is about the same as that of attentiveness to the environment alone ($r = -.171$) since the Multiple R (always positive) is .177. Similarly, the effect of self-esteem and intelligence on the child's IS index, although it produced a significant Multiple R (.59, $P = .01$), has little real meaning because self-esteem alone has almost as high a correlation with the

child's IS index (.57). Intelligence, it appears, adds little to the relationship.

A test of the combined effect of all four variables (complexity, attentiveness to the environment, self-esteem, and intelligence) on the child's IS index produces a significant Multiple R (.59, P= .01) but its meaning can be questioned because self-esteem is largely responsible for this result. As might be expected, the only variable which results in an appreciably higher Multiple correlation than the zero-order correlation with the child's IS index when combined with self-esteem is support (Multiple R of self-esteem and support= .659). Perhaps the reason is that these two variables are themselves largely uncorrelated. Together, they emerge as the strongest influences on the child's IS index. In fact, we have not been able to establish that self-esteem is significantly related to the family power and support structure, or that our results have not happened simply by chance. But there is cumulative, if not persuasive, evidence of the importance of a low level of support from parents, and high self-esteem of the child. The data will be summarized in the final chapter and a revised multivariate theory of adolescent information seeking behavior will be formulated on the basis of the findings.

Figure 10. Summary of self-esteem and cognitive style variables according to the power and support axes.

POWER	SUPPORT: Low	SUPPORT: High
High	"A" 1. Average complexity (35.88) 2. Idealist orient. (9.11) 3. Medium high S.E. (91.0) 4. Medium high I.Q. (5.33) 5. IS index 9.89	"B" 1. Complex (37.25) 2. Idealist orient. (9.13) 3. Low-medium S.E. (89.8) 4. Low I.Q. (4.13) 5. IS index 8.25
Low	"C" 1. Simple (33.63) 2. Empiricist orient. (8.86) 3. High S.E. (94.0) 4. High I.Q. (5.75) 5. IS index 12.25	"D" 1. Average complexity (35.88) 2. Empiricist orient. (8.57) 3. Low S.E. (83.9) 4. Medium-low I.Q. (5.14) 5. IS index 7.14.

1= Conceptual complexity
2= Attentiveness to the environment
3= Self-esteem
4.= Intelligence
5= Information search

CHAPTER SEVEN

A REVISED MULTIVARIATE THEORY OF ADOLESCENT INFORMATION SEEKING

The possibility has been held out that although the data do not provide statistically significant support to establish a relation between the family power and support structure and the child's information seeking behavior, the cumulative evidence is nonetheless persuasive that characteristics of adolescents which contribute to a high level of information search are related to the family structure. This assertion will be supported by, first, reviewing the hypotheses of the study and the evidence relevant to each. And, secondly, by presenting a revised multivariate theory constructed on the basis of the findings. The mean scores for each of the variables are presented in Figure 10 according to the power and support taxonomy.

THE BASIC FINDINGS

The first two hypotheses are related and can be dealt with together. They concern the type of cognitive style that characterizes HPHS (high power, high support) children. The expected pattern of adolescent cognitive style, assuming as we have, that an empiricist orientation in respect to attentiveness to the environment is associated with the pow-

er axis, and conceptual complexity is associated with the support axis, was this:

	POWER	SUPPORT	COGNITIVE STYLE
A.	High	Low	Simple empiricist
B.	High	High	Complex empiricist
C.	Low	Low	Simple idealist
D.	Low	High	Complex idealist

The hypotheses associate complexity with high support and an empiricist orientation in respect to attentiveness to the environment with power. They were not supported. The actual pattern by quadrant was this:

	POWER	SUPPORT	COGNITIVE STYLE
A.	High	Low	Complex idealist*
B.	High	High	Complex idealist
C.	Low	Low	Simple empiricist
D.	Low	High	Complex empiricist*

*There were identical scores in these two quadrants for conceptual complexity. Their level of complexity was greater than that of Type "C" but less than that of Type "B."

The tendency then is for some association of complexity with high support, as predicted, but for the empiricist orientation (measured by the Rotter Scale) to be associated more with low power than with high. Thus, of the two uncertainty processes, observing and encoding information (in this study, an empiricist or an idealist orientation) and generating alternative hypotheses, only the latter, measured by the

Barron-Welsh Art Scale, follows the predicted pattern, and then mainly with respect to high power, high support conditions, Type B.

The third hypothesis predicted that HPHS (Type B) families would provide optimum conditions for the development of self-esteem. This hypothesis was not supported. The highest self-esteem scores were those of children in the LPLS quadrant, Type C.

According to the fourth hypothesis the Type B quadrant, HPHS, would include individuals who engaged in information seeking at the highest rate, since these individuals would be most fluent in the uncertainty processes mentioned above. It was not supported. The Type C individuals, in the LPLS quadrant, had the highest mean IC index scores.

The fifth and sixth hypotheses, taken together, suggest that HPHS conditions are conducive to the development of complex conceptual structures and attentiveness to the environment, and the fostering of self-esteem. These characteristics lead to greater uncertainty in decision making situations with a higher level of information seeking behavior. Contrary to the hypotheses, however, where the conditions did exist, children were characterized by an idealist orientation (externals on the Rotter Scale), indicating a lack of attentiveness to the environment, and by relatively low self-esteem. Children who experienced such an atmosphere, contrary to the hypotheses, did not seek information at a

greater rate than others, except for those in the LPHS quadrant (Type D), who had the lowest mean IS index scores.

If we contrast the HPHS quadrant with its diagonally opposite quadrant, LPLS, the differences are striking. The two conditions produce exactly the opposite results on almost all dimensions of self-esteem and cognitive style. The results are almost the complete reverse of the hypothesized predictions. If LPLS subjects had complex rather than simple structures the reversal would be complete. In addition, as we see in Figure 10, those in the LPLS quadrant have a decided edge over the HPHS subjects in information seeking behavior. It is this cumulative evidence which can not be ignored and requires further explanation.

A REVISED THEORY

The formulated hypotheses were based on Tallman's theory outlined in the first chapter. It appears now that these results can be explained by returning to that theory. The notion was drawn from the theory that the optimum problem solving family would be characterized by high power and high support, although power would be articulated within a flexible framework. A basic feature of the optimum problem solving family, however, is its ability to become more open over its life cycle (Tallman, 1970:101), largely due to the flexibility of a legitimized authority structure. A true test of this "flexibility" theory would require longitudinal

data following the same basic sample of families through stages of the life cycle. Or separate studies might be made of families at differing stages of the life cycle. But some such accumulation of comparative data would be required to see if families become more open as they progress through the cycle, and if this increasing openness influences variables such as self-esteem and cognitive style.

If Tallman is correct, then families with children in the midst of adolescence, such as the tenth grades studied in this research, would be at different stages in the emancipation process with respect to parental authority (Adams, 1971:161-167). It is conceivable that the power and support structure of the family would vary with the degree of autonomy achieved by the adolescent. Indeed, his autonomy, or lack of it, might be a function of the flexibility with which his parents handle the problem of authority and support.

In a study of competence in nursery school children, Baumrind and Black (1967) found that competent children had parents who were more demanding, communicative, controlling, and loving than parents of less competent children. In terms of this research, the families of the competent children would be included among our HPHS families. Tallman's point is that these families would not change in power and support structure for younger siblings as they appear but

by the time the older children reach adolescence, and some measure of autonomy, overt expression of power and support toward them will diminish. This will be the case unless a failure to develop autonomy, for whatever reason, leads to continued expressions of power and support on the part of the parents.

One of the dimensions of self-evaluation investigated by Gecas (in Thomas, et al., 1974) is related to the degree of autonomy achieved by the individual. The feelings of competence, effectiveness, and personal influence, which have characteristics in common with feelings of power (Becker, 1962), Adler's "will to power" (1927), Foote and Cottrell's "interpersonal competence" (1955), and White's "sense of efficacy" (1965), are specified by Gecas as a dimension of self-esteem. Gecas used Osgood's semantic differential (1962, 1964) to obtain five items for his scale of SE-Power (powerful, clever, attractive, confident, intelligent).

In this study the measure of self-esteem consisted of subjects' self-evaluations with respect to four aspects of their personalities: assertiveness, likeability, intelligence, and responsibility. One of these, responsibility, might fit better with Gecas' SE-Worth scale, which included the items: honest, good, dependable. But the other three seem to be closely related to Gecas' SE-Power items. As explained above, these aspects of self-esteem were measured

by the Borgatta Self-Rating Scale, and in this study the children especially scored relatively low compared to the norms provided by Borgatta's Wisconsin survey data. If, as we suggest, this measure of self-esteem provides an index to the achieved autonomy of the tenth graders in the sample, then the general level of autonomy among them was low.

If we note the self-esteem means in Figure 6, however, interesting relationships appear, not so much in the strength of the differences, which are not statistically significant, but in the pattern which they assume. If we take the HPHS quadrant as the base line, from which to assess changes, on the assumption that parental power and support are highest in the child's earliest years, then we can follow the result of changes in power, support, or autonomy.

Beginning, then, at the HPHS quadrant, we see that a change in authority structure involving a lessening of parental power, with support maintained at a high level, a move in other words from Type B (HPHS) to Type D (LPHS), results in lowered self-evaluation scores. If power is maintained, however, while support is lessened, the move is from Type B (HPHS) to Type C (LPLS), only conceivable if parents have either <u>abdicated</u> their responsibility (when their children <u>have not</u> achieved autonomy) or <u>relinquished</u> their responsibility (when their children <u>have</u> achieved autonomy), produces the highest self-evaluation scores.[1] Unfortunately, we can not be sure these results have not

occurred by chance.

But this analysis articulates well with the fact that subjects in the Type C quadrant (LPLS) have uniformly high scores on all measures except complexity. Taking Type C (LPLS) as the base point, this means that as either power or support increase there is a corresponding fall in scores for intelligence and self-esteem. An increase in power leads to a change from an empiricist to an idealist orientation, while an increase in support reinforces the empiricist position of subjects. Complexity increases when either power or support rises.

Of course, none of these statements is supported by statistically significant differences in the means. It is not so much the strength of the family structure variables that impresses us as their minimization, their tendency to diminish, that is of prime importance. To the extent, in other words, that the family atmosphere is not one in which parents feel constrained to provide support or exercise power, the child is likely to score high on measures of self-esteem, cognitive style, and information seeking.[2]

The analysis of the correlates of information search showed that there were four variables apart from power and support which affect information seeking behavior: self-esteem was the strongest of these, intelligence was also a factor, and the cognitive style variables, conceptual complexity and attentiveness to the environment, were very weak.

Each of these was related to the family power and support structure and the evidence suggests that the optimum condition for high self-esteem and an effective cognitive style (for information seeking behavior) was the LPLS condition. The adolescent children in this study whose parents kept suggestions, directions, and expressions of support to a minimum (LPLS) were most likely to score highly on the IS index. They sought information from objective and interpersonal sources and rated themselves higher as information seekers at the highest rate. The same children were most likely to score high on measures of self-esteem, intelligence, and attentiveness to the environment. Only in terms of complexity, where they were the most simple of all, was the picture out of focus. Previous studies of complexity (Sieber and Lanzetta, 1964, 1966) have shown that complex persons acquire and process more information than simple persons. This is not the case here (although these results may be due to an inadequate measure of complexity).[3] The consistency of the other measures (despite their lack of statistical significance) leads us to ask what possible conditions lie behind them, and in seeking an answer, we will turn to the problem of adolescent irresponsibility which was discussed in Chapter Three.

FAMILY STRUCTURE AND ADOLESCENT IRRESPONSIBILITY

If a family is to become an effective problem solving

unit, according to Tallman (1970), it is imperative that a flexible structure develop over its life cycle. This means that as each child matures, and presumably becomes more responsible for himself, the parents are called upon to adjust their parenting activity to allow for increasing participation of the child in the family's problem solving process. To the extent that this does not happen, the child is thwarted in his desire to become a responsible participant in the family or to test his competence in the decision-making process. The romantic ideology that pictures youth as a period of great curiosity about the world finds no exemplar in this study. As a group, these adolescents reacted to the democratic-directive (mostly directive) leadership of their fathers by adopting a relatively passive behavior pattern. They were not involved, and their parents tended to interact more with one another than with them.

A key figure in this pattern has to be the father. He provided both expressive and instrumental leadership in an undifferentiated pattern.

Two variables emerged in the study as those most likely to provide a key to the way the pattern of family interaction effected the information seeking behavior of the child. These are support (the rate at which parents expressed solidarity with their children by acts intended to raise their status, help or reward them in some way) and self-esteem

(self-evaluations of the child in respect to assertiveness, likeability, intelligence, and responsibility).

Contrary to previous studies reported in this area, especially that of Gecas (in Thomas, et al., 1974) we find in this study a negative correlation between support and self-esteem. But the behavioral data of this study has to be interpreted within the context of the interaction patterns described above. The relationship between support and self-esteem is not strong (-.10). In fact, its chief significance may lay in the fact that it is unexpectedly weak and in the wrong direction. A high positive correlation would not have been at all unexpected on the basis of previous studies.

It may be that the explanation of these results is to be found in the realization that we are not discussing an abstract entity when we mention support but a specific kind of activity engaged in by parents in a special context. The most important features of that context have to do with the so called irresponsibility of youth, which in this case might be termed the unresponsiveness of youth. It is possible that the acts which observers recorded as supportive represented the efforts of parents to prod their unresponsive children to greater activity. Even if not intended as such by the parents, it is possible that the children interpreted them in this way. The low levels of activity reported of children in the study, despite the nature of the task, contribute to that possibility. In that case, every effort of

a parent to raise the status of a child, to help or even reward the child, would be interpreted by the child as a hollow gesture since it did not correspond to his general experience in the situation. As we have seen, that experience was largely one of being excluded by parents who interacted more between themselves than either did with the child.

Another way to say this is that parents may have been using techniques that were appropriate to stimulate their child to activity when he or she was much younger. These techniques were no longer appropriate now that the child had reached adolescence. Far from enhancing the self-esteem of the child, that kind of supportiveness might lead to exactly the opposite result. Behavior in the laboratory in that case may have reflected the wider experience brought to the situation by the family. If that wider experience enabled the parents to recognize the developing maturity of the adolescent child, and they treated him accordingly, then it is entirely possible that the child had sufficient self-esteem that he would not interpret parental supportiveness as a hollow gesture, but in that case, the parents would not feel constrained to provide that kind of support. Of course, if parents did not recognize the developing maturity of the adolescent child, and this seems to have been true of the parents in this study, since they did not interact with their children at a high rate, every supportive gesture they made

was likely to be interpreted by the child as a hollow gesture.

The low power, high support (LPHS) quadrant in Figure 10 probably exemplifies this situation. Children in this quadrant are low in intelligence, the lowest of all in self-esteem, and have the lowest IS index scores. The parents make few suggestions as to possible courses of action but they maintain a high level of supportive activity. The implication is that they have not been used to interacting with the child in problem solving situations. They may be anxious lest the child show up poorly in public. They urge him on by supportive acts but he remains unresponsive. The less intelligent he is, the more likely they are to urge him on. But the more supportive they are, the less information he seeks.[4]

In contrast, the low power, low support (LPLS) quadrant, as noted above, includes children who have the highest intelligence and self-esteem scores, an empiricist orientation to the environment, and seek information at the highest rate. Aside from conceptual complexity, all the scores in this quadrant are propitious for high information seeking behavior. There is little reason for parents to be anxious about how well these children will perform. In the relaxed atmosphere they find a family structure commensurate with their needs.

CONCLUSION

Power was measured by counting the suggestions parents offered their children or directions they gave them about a course of action one or the other thought advisable. Support was measured by the frequency with which parents expressed solidarity with children by acts intended to raise their status, help or reward them in some way. The effect of these independent variables on the child's information seeking behavior was investigated. Power was not a factor of any significance with respect to information search. Support consistently demonstrated a significant relationship but more by its absence than by its presence. There was no significant interaction between power and support in relation to information search, but the low power, low support condition revealed a mean information search score considerably higher than other combinations of power and support.

The most powerful influence on information search to emerge from this study was self-esteem. Taken as a measure of achieved autonomy, it helps us to interpret the results in the light of Tallman's theory that a flexible authority structure is required in families that perform effectively in problem solving situations. A flexible exercise of power means that the family becomes more open over its life cycle. This exercise of power was discussed within the framework of the so-called irresponsibility (or unresponsiveness) of youth. Self-esteem was seen as a measure of the extent to which irresponsibility has been forced on the child. The

more responsive the parents to the child's needs with respect to testing his competence in the decision-making process as he increases in maturity, the higher his self-esteem and the more likely it is that irresponsible behavior patterns have not been forced upon him.

The conclusions, while tentative, since the data did not provide statistically significant support for all of them, point to the need to investigate further the flexibility of the family structure over time, and the effect that flexibility, or the lack of it, has on the development of self-esteem and cognitive styles conducive to high levels of information seeking behavior. The indications in this study are that flexibility is a key factor in that development.

NOTES TO CHAPTER SEVEN

1. Presumably, this would explain the wide discrepancy in LPLS subjects when self-esteem is controlled. Low self-esteem indicates a lack of autonomy which translates into a mean IS index of 7.8. High self-esteem indicates the achievement of autonomy and a means IS index of 16.8.

2. I.e. the adolescent child who has achieved autonomy.

3. There are two possible explanations of these results. First, the Barron-Welsh Art Scale measures integrative complexity apart from dimensional complexity. If integrative complexity is not a factor in the search for, as much as in the integration of, divergent materials, this would explain why complexity is not related to information search in the data. The fact that the highest complexity scores appear in the HPHS quadrant may be a function of the adolescent's emancipation process. If we assume that where parental power and support remain high, autonomy has not been achieved, the relations within the family are likely to be turbulent. Barron reported negative correlations with Good Judgment, Adjustment, and Abundance Values (1953: 166). Adjustment was defined as "getting along in the world as it is, adequate degree of social conformity, capacity to adapt to a wide range of conditions, ability to fit in" (ibid.), and abundance values had to do with a sense of

security and optimism regarding the future. He says, "...one recalls the adjective self-descriptions of the Complex people: gloomy, pessimistic, bitter, dissatisfied, demanding, pleasure-seeking, spendthrift. There is certainly some suggestion here of early oral deprivation, of pessimism concerning the source ov supply, which is seen as untrustworthy and which must be coerced, or persons tricked, into yielding. It is as though the person had reason to believe that he could not 'get what was coming' to him unless he made sure that he did by whatever device might be available. It is this lack of infantile trust (as Erickson names it) that leads to adult duplicity and craftiness (ibid.)."

We could have more confidence in these results were it not for the fact that the range of mean IS index scores is narrow and not statistically significant in their differences. Furthermore, we have no independent data which might provide norms.. The results seem to indicate that subjects in all four quadrants were neither markedly complex nor simple. Sieber and Lanzetta (1966) avoided this problem by taking only subjects who yielded extremely high or low scores on the Sentence Completion Test or Essay Problem Test. In contrast, many of our subjects appear to have fallen in the wide area between the extremes.

4. That is, there was a -.27 correlation between support and intelligence, and a -.38 correlation between support

and the child's IS index. Perhaps we should note that the LPHS subjects were strong empiricists. This alone should have given them high IS index scores, but this faculty seems to have been overridden by the considerations mentioned in the text. Seemans' (1963) finding, that retention of information was correlated with the Rotter Scale especially when information is relevant to personal goals, even though contaminated by a measurement problem, might indicate why the LPHS subjects had low IS index scores: they were not motivated for this kind of activity.

APPENDIX "A"

All subjects completed pre- and post-experiement questionnaires. No question in the post-experiment questionnaire is relevant to this study. Of those in the pre-experiment questionnaire, use was made of two background questions, sex of the child and social class (father's occupation). Part II consisted of the Borgatta Self-Rating Scale adapted to include self-ratings on information seeeking behavior. The introduction and general form were as follows:

Please rate yourself on each or the following. Ratings of 4 and 5 are almost neutral, but 4 means the item probably does not describe you a little, and 5 means it probably does. Circle your rating.

GENERALLY, I...	Definitely does not describe me									Definitely describes me well
1. read the Sears, Wards, or	0	1	2	3	4	5	6	7	8	9

This form was applied to the following items:

1. read the Sears, Wards, or Speigel catalog just for fun..
2. am very active.....
3. am friendly.....
4. am intelligent.....
5. am very tense.....
6. am interested in getting things done...
7. read the instruction manual carefully when I get a new machine (like an automatic washer, car, or camera).
8. am authoritarian.....

9. am pleasant .....
10. am rational and logical .....
11. get upset easily .....
12. pay attention to the task .....
13. try to find out everything I can before making a decision .....
14. do most of the talking .....
15. am likeable .....
16. am clear minded .....
17. am nervous .....
18. accept responsibilities .....
19. shop around a lot before I buy .....
20. am assertive .....
21. support others .....
22. am mature .....
23. am emotional .....
24. am conscientious .....
25. am happily married .....

Number 25 was included only on schedules administered to parents.

Items taken from the Rotter Scale were:

A. 1. In the long run people get the respect they deserve in this world. (I)
   2. Unfortunately, a person's worth is often not recognized no matter how hard he tries. (E)

B. 1. Without the right breaks one cannot be effective as a leader. (E)

B. 2. Capable people who fail to become leaders have not taken advantage of their opportunities. (I)

C. 1. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control. (E)
2. By taking an active part in political and social affairs the people can control world events. (I)

D. 1. It is hard to know whether or not a person really likes you. (E)
2. How many friends you have depends on how nice a person you are. (I)

E. 1. Sometimes I can't understand how teachers arrive at the grades they give. (E)
2. There is a direct connection between how hard I study and the grades I get. (I)

F. 1. Many times I feel that I have little influence over the things that happen to me. (E)
2. It is impossible for me to believe that chance or luck plays an important role in life. (I)

The (I) and (E) parentheses refer to internal (I) and external (E) choices. They were not included in the schedule but are included here for the reader's information. The six items were introduced with the following instructions:

> Please pick the statement from each of these pairs which you believe to be true. Make your choice on the basis of what you think really is the case rather than on the basis of what you think should be. In some of the pairs you may believe both statements are true. In that case, circle the number for the one you more strongly believe to be true.

Barron-Welsh Art Scale

DEVISED BY
GEORGE S. WELSH, PH.D.
AND
FRANK BARRON, PH.D.

A Portion of the

Welsh Figure Preference Test

DIRECTIONS

(1) You are asked to decide whether you like or don't like each of the drawings on the following pages.

(2) Record your answers on the separate answer sheet by making a heavy mark opposite "L" (for Like) or "D" (for Don't Like). On some answer sheets the labels may be "T" (or True) for Like, and "F" (or False) for Don't Like. Be sure the number of the drawing you are considering is the same as the number you mark on the answer sheet.

If you can't decide, guess. Do not skip any drawings. Try to work as fast as you can.

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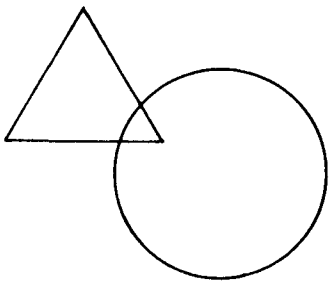

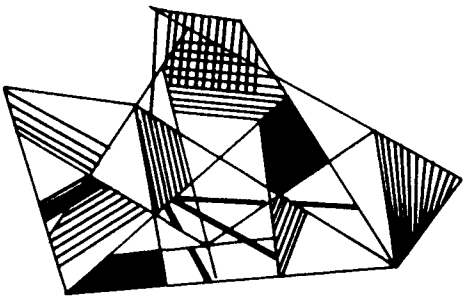

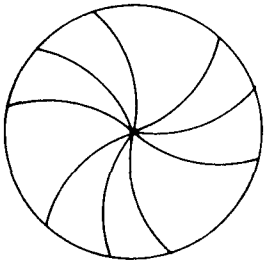

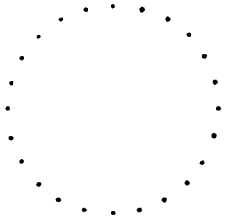

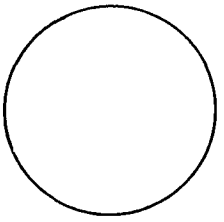

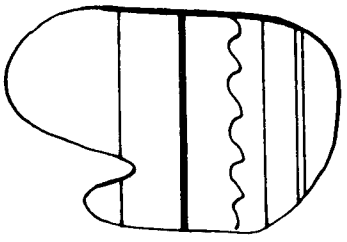

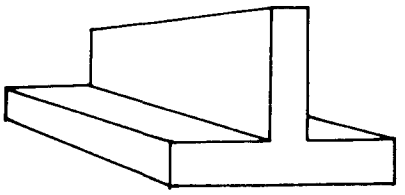

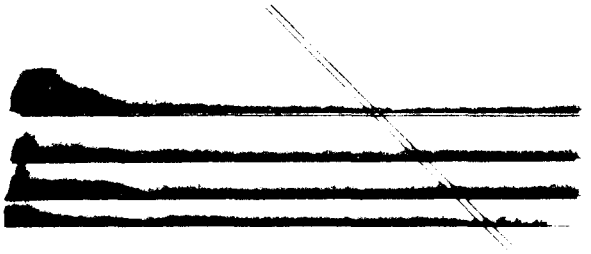

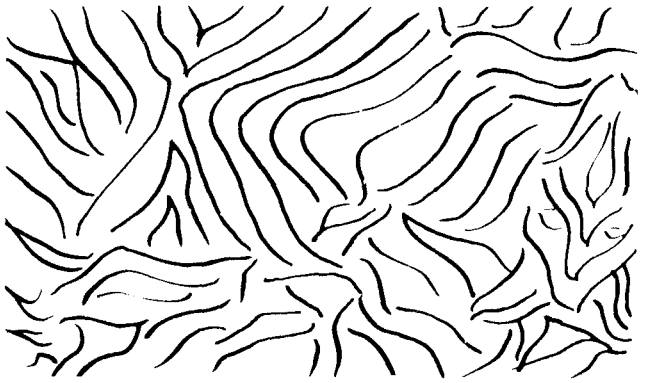

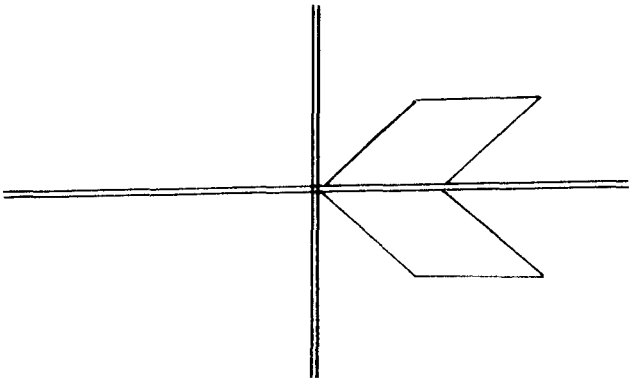

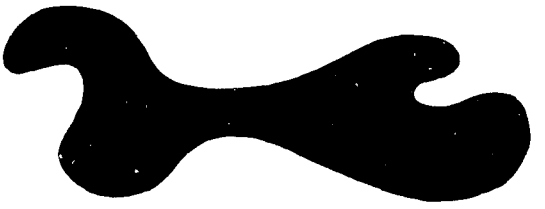

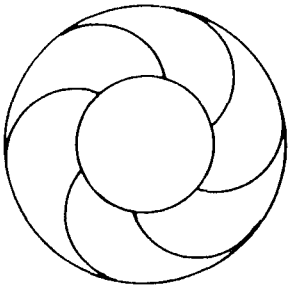

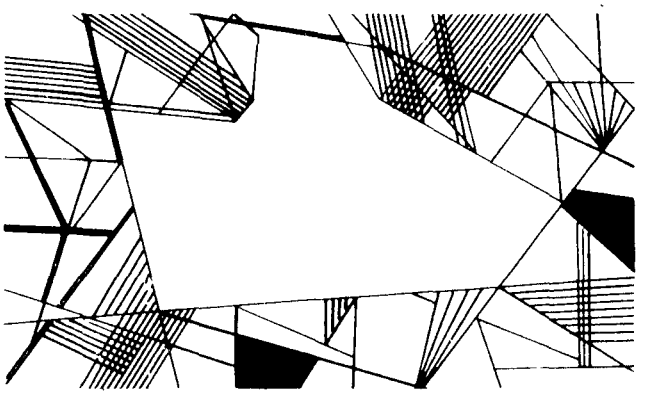

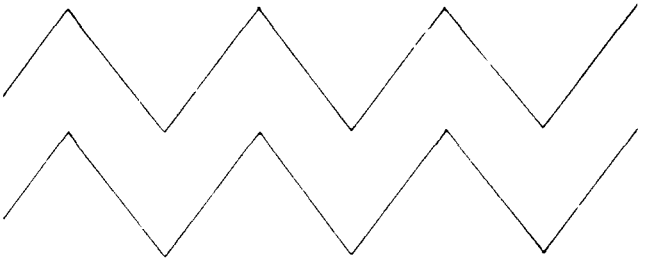

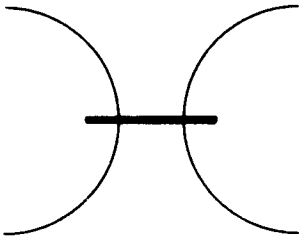

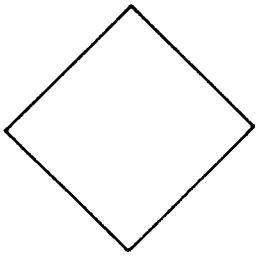

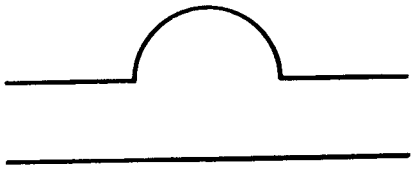

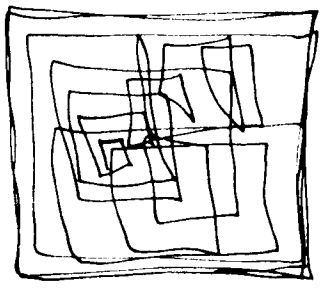

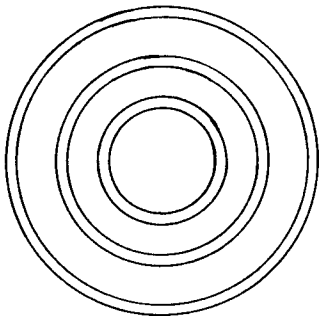

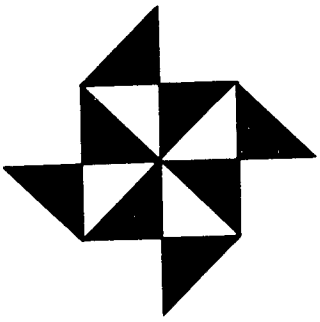

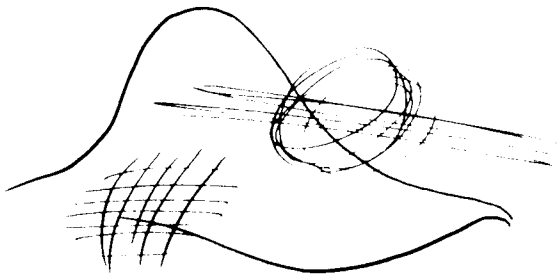

APPENDIX "C"

INSTRUCTIONS FOR BALL AND PUSHER TASK
(Read exactly as given here, including numbers and letters)

As you may know, there is a lot of interest these days in how groups solve problems. But we really know very little about what happens when families try to solve problems. That's why we have asked the three of you to play this game. We want to see how you work together to solve a problem or figure out a puzzle.

The problem is to figure out how to play this game, and then to get as high a score as you can using this information. We can tell you only a few things about the way to get a high score, You will have to figure out the rest. Here are the rules and hints which we can give you:

1. Points are gained by shooting these balls. Everytime you make a point or points, a green light over there will flash (demonstrate).
2. You must figure out the rules of the game by noting what you did when a green light is flashed.
3. Penalties will be given each time you break a rule. Everytime you lose a point or points, a red light over there will flash (demonstrate).
4. Everytime a light flashes, it should be a problem to you. You should work together to figure out what you did that gained or lost points. This problem requires that you hit a happy medium between playing and talking if you are

to get as good a score as you can. There is only one restriction on what you say: If you figure out a rule, you must not tell anyone unless they ask you. But if they ask you can tell.

5. You will have a limited amount of time in which to play. You will play for 3 minutes, take a one and a half minute rest, play for another 3 minutes, take a second one and a half minute rest, and so on for 6 periods of play. During these rest periods you must return to your present seat.

6. To help find out the rules of the game, you can also get information by taking these cards. Each card has a rule for playing the game. Each time you pick a card it will cost you a point. Take the cards one at a time and in order. You must not tell the others what is on a card unless they ask you. If they ask, read out exactly what is on the card.

7. You should also ask each other for the ideas they have and the rules they have discovered.

8. It should be clear from what I have said so far that you are supposed to play as a team. In fact, as I mentioned before, one of the purposes of the study is to find out how people work as teams. You can and should talk to each other, ask each other questions, and work together in any way.

9. After each playing period, your score will be put on the blackboard. Here are some things you should know about these scores:

   a. The scores are total group scores. They are not individual scores. Your job is to get the highest possible score for your team. This will take everyone's work and enthusiasm.

   b. Each period is scored separately (READ ONLY TO TEAMS PLAYING UNDER INTRINSIC REWARD CONDITIONS)

   c. The scores recorded on the board are the remainder left over after subtracting the number of penalties you receive from the points you gained that period. Penalties are <u>not</u> carried over from period to period.

   d. The different ways of getting points and penalties have <u>different</u> scores. An example of this is the set-up in football of giving 6 points for a touchdown, 1 point for making the kick after the touchdown, and giving different numbers of yards in penalties for breaking different rules. At the beginning of play, you will get an immediate credit bonus of points. In other words, you start with some points "in the bank." You will not be able to keep your own scores. I will watch closely and be responsible for that.

   e. (READ ONLY TO TEAMS PLAYING UNDER INTRINSIC REWARD CONDITIONS). Some of the games are worth more than

others. The "high point" games are marked on the blackboard (point). If it is a high point game, we will double the value of any points you earn for that game.

f. Notice that here on the blackboard is a set of scores. These are the average scores of the groups who worked with us while we pre-tested this problem. We put these scores on the board to give you an idea of how you are doing as the game progresses.

10. Now for special notes:

a. (READ ONLY TO TEAMS PLAYING UNDER EXTRINSIC REWARD CONDITIONS) The exact amount of money you will get for working on this problem depends on your scores. Each of you will get one cent for every point made by your team. But you will make a minimum of $4 each no matter what your score is. For example, if your team scores 460 points, at 1¢ a point you will get $4.60. If you make 320 points you will each get the minimum of $4. As you can see from the scores on the blackboard, the average of the other groups has been 505 points, so your group will probably get somewhere around that.

b. Please don't throw the pushers.

c. Please speak up so the observers can hear you.

d. This is a complete set of instructions. Once we get under way, we cannot answer any questions. You will

get your instructions from this recorder. This is so that everything can be properly times.

11. Finally, I might say that the ability to figure out a rather complex situation -not physical skill- is what is important in this game. We have seen many groups work hard to make successful shots only to lose most of the points gained through penalties because they failed to learn these other rules. We think you should be able to do at least as well as these pretest groups did, but to do so you have to work hard too.

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